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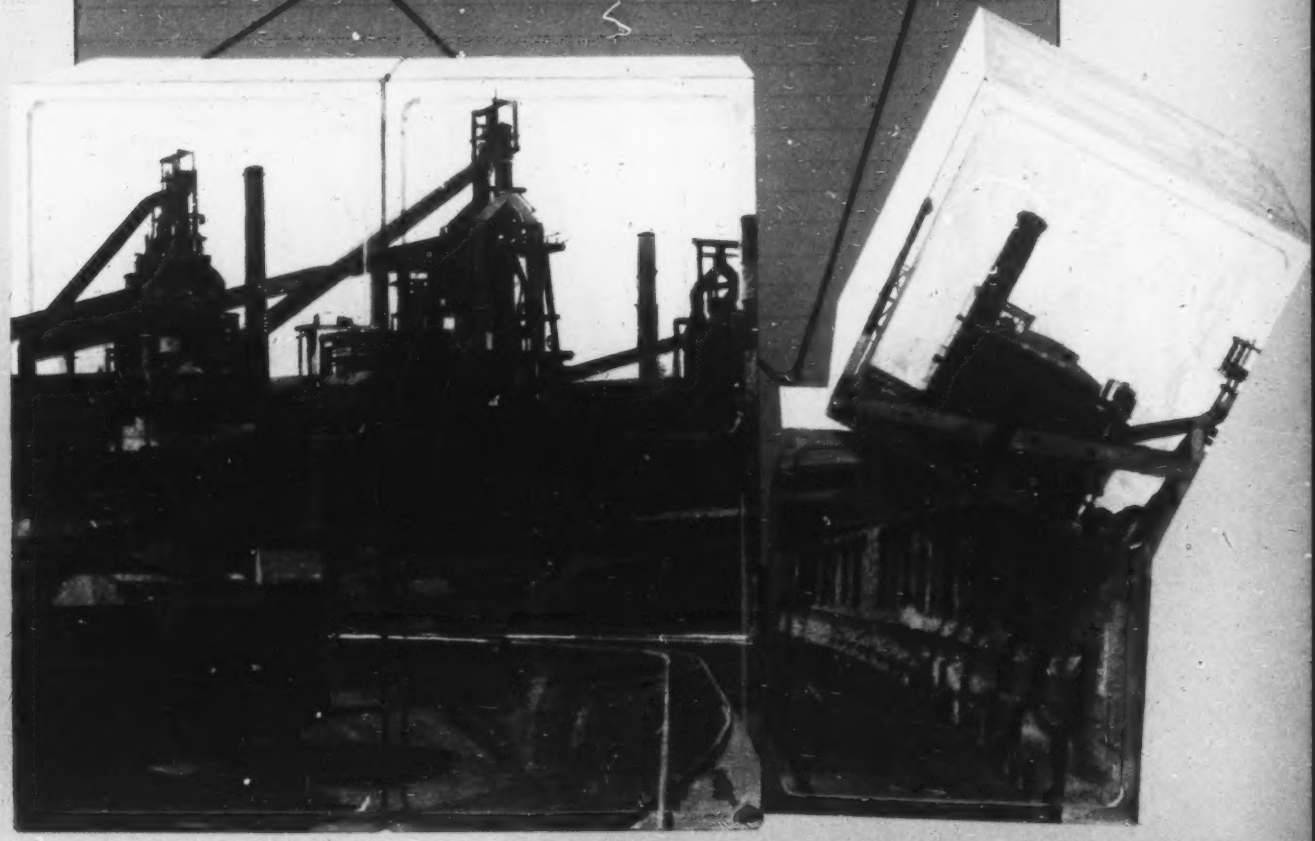
IRON AGE

MANUFACTURING MANAGEMENT

1985 FORECAST ISSUE

HOW INDUSTRY WILL HOLD UP THIS YEAR
AN EXCLUSIVE LOOK AT 29 INDUSTRIES



PEOPLE AND EVENTS SHAPING THE NEWS—
A REVIEW OF '84 AND A PREVIEW OF '85

ECUTIVE INSIGHT—TOP EXECS
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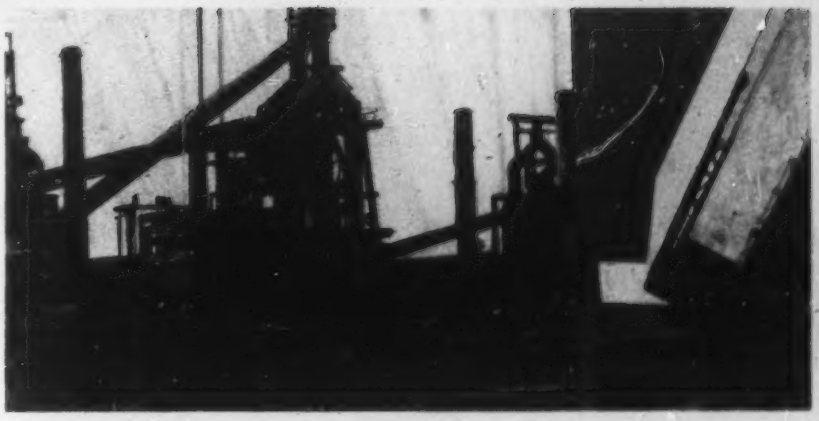

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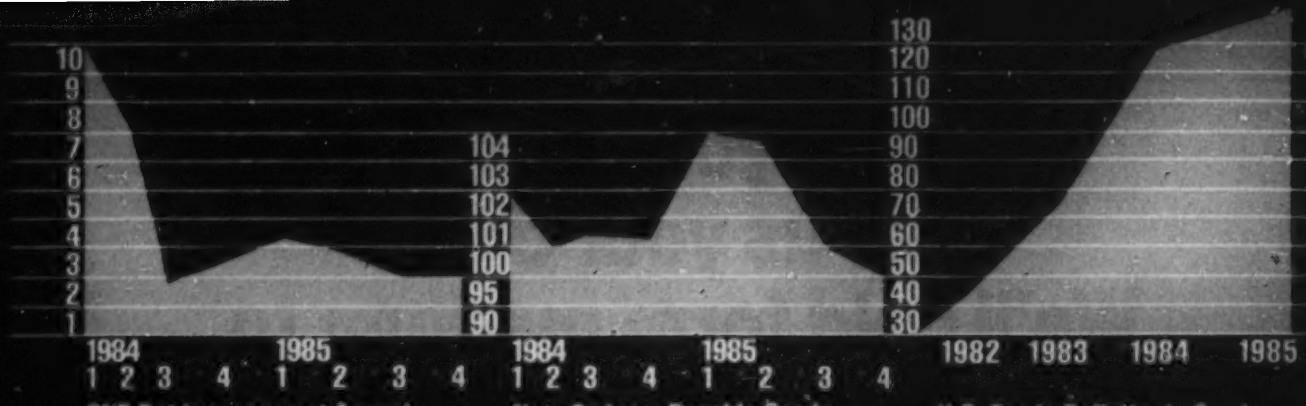


1985 FORECAST

BY JOHN D. BAXTER

1985?

Forget the Washington brouhaha on dealing with the Federal budget deficit.

Keep your eye on the Fed.

Viewed in that perspective, 1985 looks promising.

There is little that fiscal policy can do to strengthen or weaken the outlook for 1985. The Federal budget for fiscal year 1985 is already set in concrete. That year began on October 1, 1984.

Predictably, fiscal policy will have a dominating influence on the economy in fiscal 1986—and in calendar terms, that means 1986. Then, there will be almost certainly, major tax changes, and possibly some big government spending cuts aimed at the huge budget deficit.

So, let the budget deficit battle between the Hill and the White House roar on. It's significant—but not for calendar year 1985 as far as business managers are concerned.

The Fed, however, does have the power to keep recovery fires burning through 1985—or to just about extinguish them.

All this means that economic and business recovery this year will reflect, for the most part, two factors: One, what the Fed does about money supply and interest rates, and two, the underlying strength and momentum of the recovery itself.

In sum, they both look promising for 1985.

First, the Fed.

Lately, the Fed has felt a bit triumphant. Back in 1981, it set a tough goal of bringing inflation to its knees. It won the battle. (Certainly, in its own view.) In 1981, the inflation rate, measured by the GNP deflator, was 9.6 pct. In the latest annual measure for 1984, prices moving up at a subdued 3.6 pct rate.

As the year starts, the Fed is in a benign mood. It is a mood that has been termed, "pro-recovery." And the Administration and business couldn't have a better friend when it comes to keeping the good times rolling.

There are several good reasons to believe the central bank will try to keep that roll going.

For one, as noted, inflation is subdued. That means stimulative policies can be used without fear of stirring the glowing embers of inflation.

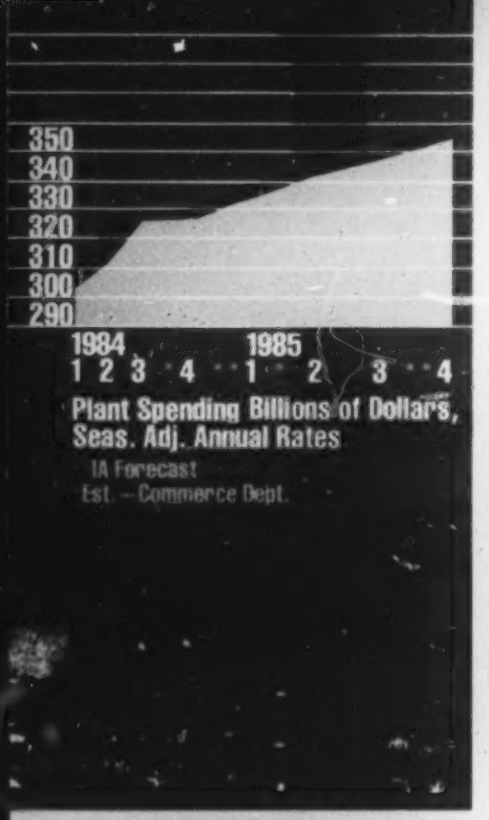
Secondly, the economy is moving ahead at a much slower rate than it did earlier in the expansion period. So, the problem has shifted from beating back inflation to preventing the business recovery from slowing to a halt. The Fed lately has shown clear signs of shifting its policy direction to meet the new challenge.

Another reason to believe the Fed will act positively to keep the recovery rolling is the fact that it has been running on the low side of its targeted ranges for money supply.

Lastly, of course, the Fed has elbow room to stir up the economy because interest rates have behaved well lately.

In short then, the nation's central bank is on the side of business expansion. That alone almost assures an upbeat 1985—at least, through the first half.

Favorable government economic policies are always of help. But one



HOW INDUSTRY WILL HOLD UP THIS YEAR

factor having even greater impact at this stage of a business cycle is the very momentum of the recovery itself. That momentum—despite the recovery's great pause after mid-year 1984—now looks favorable. This is especially true for industrial capital goods lines which usually come on strong in the latter days of a business expansion.

The third quarter slowdown last year shook up a lot of people. But most economists who had made forecasts of recovery rolling right on through most of 1985, stood by their projections. As one said, "It took guts."

The new alignment of sales and inventories could well mean improved growth rates in final sales in the closing quarter of 1984 and the first two quarters this year. This is a view shared by many economists.

One of those economists is Stephen S. Roach, vice president and senior economist of the investment firm Morgan Stanley & Co.

"While current quarter (4th of 1984) GNP growth is likely to be little different than the sluggish third period report," he said, "the clearing up of inventory problems sets the stage for a resumption of output growth that is driven by the momentum of final demands. As a result, we continue to expect real GNP to be rising at a 4 pct to 5 pct pace in the first half of 1985"

Inventory adjustment helps explain the late 1984 pause in the recovery. But if 1985 is to see a continuance of recovery, there must be solid marketplace demand—in consumer and industrial markets. Too, government buying of goods and services should be strong.

Apparently, consumers are not in a mood to cool their buying. The latest survey findings of the University of Michigan's Institute for Social Research (ISR), issued in mid-November, spells out the good news with a bang.

"Consumer optimism remains near its highest point in a decade," stated ISR analysts, "indicating that peak-level spending should continue through mid-1985."

In the four quarters through the end of the September period—the latest fully measured quarter—personal consumption expenditures rose a total of $100 billion.

So, it appears that the American consumer will take 1985 in stride. He is set to continue buying at a full recovery pace.

Too, there has been little loss of steam in government buying of goods and services. The hefty budget for military expenditures is a base under this spending as 1985 starts.

So, there is continuing strength in consumer and government buying as 1985 opens. But the late-shining star in 1985 may well be in industrial capital goods demand.

There are two reasons for putting a blue-chip bet on business big-tag spending. First, this was the sector with the best momentum as the year started. Second, much talked-about proposed changes in capital asset write-off rules might well spark some 'beat the clock' investment before tougher depreciation rules go on the books.

Any talk about a 'slowdown' in business investment in late 1984 makes one wonder about a definition of the term. In terms of percentage growth at annual rates, nonresidential fixed investment increased by 20.6 pct, 21.3 pct and 8.0 pct in the quarters ending in the September period.

One economist said that is a clear picture of the 'pause' in the recovery.

A just-as-clear sign of a resumption of stronger gains in spending on new plant and equipment was seen in The Conference Board's second quarter 1984 capital appropriations survey.

"Led by the motor vehicle industry," said the Board's report, "the nation's 1000 largest manufacturers set a new record for capital appropriations in the second quarter of 1984.

"Those giant firms appropriated $37.1 billion (seasonally adjusted), for new plant and equipment, a 38 pct jump over the first quarter. It marked the fifth quarterly increase in a row and foreshadows a strong upward trend in capital spending."

Also, corporations will be closely monitoring developments in new tax proposals as the Administration and Congress go at it this year. If talk of cutbacks in depreciation allowances looks to be serious, some companies may speed up their investment plans. It is hard to see with all the momentum going, albeit, the late 1984 slowing of recovery, how 1985 could be a downer. It looks to be a slower, less spectacular growth than in early 1984, but still growth. And that's growth on top of growth.

But, as always-in talking about an economic outlook, there are concerns and caveats. These mostly center on the last half of the year.

Interest rates were so high and so damaging for so long that many people live in fear of a replay. Sky-high rates could reappear. That could happen if a revived and lengthening recovery would breed a rising inflation rate.

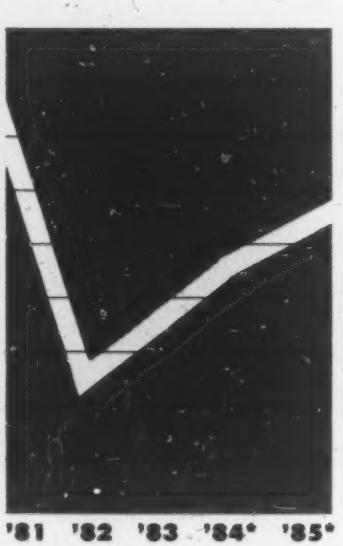
The big 'if' is really centered on the strength of the dollar. If it weakens then most economists say interest rates could soar. The flow of foreign funds to this country would dry up leaving the Fed to finance the budget deficit.

Still, most forecasters,—both economists and business executives—look for a good 1985. Slower growth than in 1984, for sure. And, in sum, it appears they see continuing business expansion through the first half; the last half is veiled. □

STEEL

Steel men now see true demand in the U.S. at 80 million tons per year.

Steel Shipments
Millions of Short Tons



Source: AISI
*IA estimate

In 1985, consumption of steel will remain at 95 or 96 million tons.

Steel imports will drop by 5 or 6 million tons. That amount will be added to the volume of domestic mills, giving shipments of 78 or 79 million tons.

That's the consensus scenario next year. A modest slowing of the consumer market is seen canceling a modest rise in markets tied to capital spending. Consumption will be steady, but reduced imports will provide a lift for U.S. producers.

Steel men were holding to shipping forecasts of around 78 million tons, but going into 1985, they were shipping at an annual rate of about 68 million tons. People were starting to talk about February as the earliest time for an upturn.

It's probably realistic to assume that the steel recovery has gone about as far as it's going to go. In 1982 and to some extent in 1983 and 1984, the depressed state of the steel market could be attributed to the state of the general economy.

In 1985, the general recovery will be three years old. Steel mills should be looking at true, normal demand and not some cyclical aberration. Until it is shown otherwise, steel men have to regard something under 80 million tons as true demand in a pretty good year. That is a far cry from the 111 million tons shipped in 1973 and the 94 million ton average of the 70s. It looks as though there's been permanent shrinkage of at least 14 million tons annually in the steel market.

The question to be answered is whether the steel industry as it's now constituted can survive and prosper with shipments between 70 and 80 million tons. Last year's experience was not encouraging in this regard. After a brief spurt of profitability in the first half, the steel industry began sinking back in the red in the third quarter. There was no improvement in the fourth quarter.

What killed the mills last year was price cutting. Costs have been slashed over the past two years, but prices have been slashed even more.

One explanation for the price cutting might be that there is still too much domestic capacity. Although 25 million tons of raw steel have been subtracted since the start of 1977, domestic production was running below 60 pct of capacity in the second half of 1984.

It's worth remembering, however, that imports captured more than 26 pct of the market in the first nine months of 1984. In 1977, domestic steel prices collapsed when imports accounted for less than 18 pct of U.S. supply.

Prices collapsed in 1977 even though domestic mills shipped more than 91 million tons and operated at nearly 80 pct of capacity. It appears that when the import share reaches a certain percentage, the imports determine price conditions even in a good year.

In 1985, the steel import share of the U.S. market is supposed to be about 20 pct. That will be high by most past standards, but it will be less than it was in 1985.

Steel producers aren't expecting a return to the days of big, regular price increases; producers feel they will have to rely primarily on cost reduction to generate profits; but it's felt the industry must get away from the condition where prices are always below costs.

Even if they had unlimited discretion, steel companies probably wouldn't go back to the old cost-plus style of pricing. There is growing concern about the indirect displacement of steel by imports of manufactured products. Steel people realize they must help keep their customers cost competitive.

NONFERROUS

The once-peppy business recovery of 1983-84 was slowing to a walk in the latter months of last year, but economic pulse-takers still were unwilling to write 1985 down as a year of slower growth.

Capital appropriations by major manufacturers rose sharply last year—some estimates late last year were as high as 20 pct—and if this is carried over into actual expenditures for plant and equipment, it could provide a sizable lift to the metals companies, particularly the copper, nickel and molybdenum producers.

The aluminum industry was looking for a record shipment year in 1984 and a further, albeit smaller, gain in 1985. While aluminum consumption was up, a large slice of the pie was claimed by imported mill products, including imported can stock, which were nearly double the 1983 rate.

Part of the problem was a weakening of the ingot price on the world market, which held down costs for overseas mill product producers. Primary ingot production came back onstream too fast in the latter part of 1983 and the early months of 1984 and it wasn't until the final months of the year that production curbs started taking hold outside the U.S. (where output started downward at midyear). Ingot prices started improving toward the end of 1984.

Rigid container sheet remained a strong market for aluminum in 1984, but promises to become even more competitive over the next year or so because of capacity build-ups by the established suppliers and new capacity additions as well. Shipments to the transportation and building and construction markets also improved significantly.

Copper prices started showing signs of slow recovery toward the end of 1984, reflecting the continued downtrend in hedge market stocks and improvement in actual consumption. Imports continued to claim a large share of the U.S. market for both primary copper and for copper and brass mill products.

The U.S. producers lost their bid for protection from imports again in 1984, during which period the major supplier to U.S. consumers was Canada and not Chile, the principal target of the original import quota bid.

There still was a large copper surplus at the end of 1984, but it was quite a bit less than it was at the start of the year. U.S. companies kept a tight rein on production last year, thanks to deep cutbacks and outright closures. To that extent, at least, the U.S. companies were entering the new year in a lot better position than they were at midyear.

Higher auto production helped the zinc companies last year, prompting some to say that the downtrend in per-car use of zinc die castings had bottomed out. Slab zinc shipments were trending upward and smelter stocks downward as the final quarter got under way and, while inventories were larger than they were a year earlier, they still were far from burdensome.

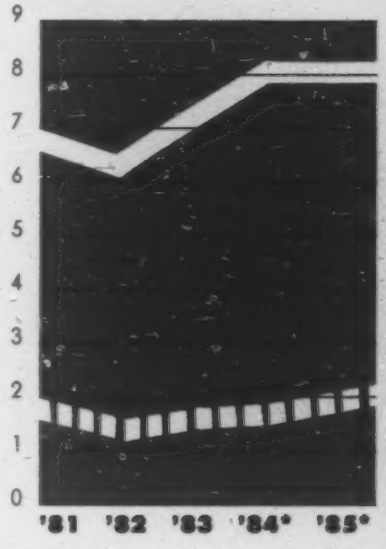
Expectations of a strong capital goods market this year should help the nickel industry, where the emphasis was on getting the inventory down in the opening months of 1985.

London Metal Exchange inventories trended downward last year and nickel use in the non-Communist world hit 1.25 billion lbs in 1984, the best level since the peak 1979 period. Conservative projections for 1985 consumption are lodged at 1.25 billion lbs, even with the 1984 total, which would make the size of the surplus the key to price trends.

Expectations of a strong capital goods market during 1985 should help.

Nonferrous Metals, Shipments

Millions of Short Tons



Source: American Bureau of Metal Statistics, Aluminum Assn.
*IA estimate

AUTOMOTIVE

U.S. automakers likely will sell 7.8 million cars in 1985—100,000 fewer than the estimated 7.9 million they sold in 1984.

Domestic-car production in 1985 should continue to run at full capacity, matching 1984's production figure of 7.9 million units. Since dealer inventory at the end of 1984 was an estimated 55 days' worth of sales, lower than the optimum 60-day supply, the extra production will replenish inventories.

Automakers expect the Japanese to continue their voluntary restraint agreement (V.R.A.) but raise the ceiling by 10 pct, or 200,000 units. The Japanese now ship 1.94 million units into the U.S. Raising Japan's limit on exports should increase total import sales in the U.S. from an estimated 2.4 million in 1984 to 2.6 million in 1985.

The key to the auto industry's sales outlook, auto executives agree, is the federal deficit. If the federal government takes little action to cut the deficit, interest rates will rise, perhaps sharply, they say. That will dramatically cut car sales. But the consensus in Detroit is that Washington will take enough action to keep interest rates fairly flat throughout 1985.

Most auto executives are predicting that the first half of 1985 will see stronger sales than the second half. That's partly because they expect slightly lower interest rates earlier in the year but mostly because they expect a stronger economy during the first half.

"The auto industry is nothing but an economic reflection of consumer confidence," the sales analyst for one automaker told *Iron Age*. And consumer confidence remains high, says the latest report from the University of Michigan's Institute for Social Research.

"The evidence suggests that consumers expect an extended period of slow growth but nonetheless favorable economic conditions," said Richard T. Curtin, survey director. "No evidence indicates that the slowdown is expected to lead to a recession during the year ahead."

"Things look reasonably good for 1985," said one automotive analyst. "It's 1986 that will be the problem year."

"I doubt that 1985 could turn into a sour year," said the vice chairman of one Big 3 automaker. "We've got too much momentum," he explained. "We in the car business have become so convinced that cycles are inevitable. But they're not. They're inevitable only if Washington doesn't do its job right.

"If the federal government deals with the deficits seriously, we could live through several more years of a healthy economy. But if it doesn't, we'll be tested again in—pick your year—1986 or 1987."

Another problem is the weakness of the Japanese yen relative to the dollar. One executive estimates that $1,500 of the $2,500 difference between the selling price of the average Japanese and U.S. car is due to an undervalued yen.

Tax structures of the U.S. and the rest of the world put American carmakers at a distinct disadvantage. The Japanese and Europeans tax sales heavily and corporations lightly, and there is no sales tax on exports. U.S. firms pay much higher corporate taxes than do their overseas competitors.

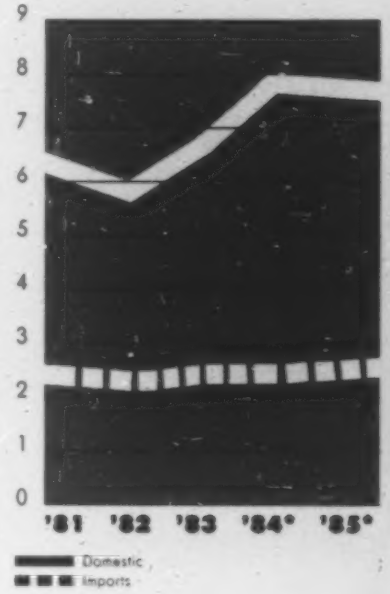
The Big 3 chief executive and operating officers have begun speaking out forcefully on the need to have fair exchange rates and to have American and foreign firms pay taxes equally.

The automakers' profits should continue in 1985 at the same record levels as in 1984.

Most predict car sales in the first half of '85 will be stronger than the second half.

Automotive, Sales

Millions of Units

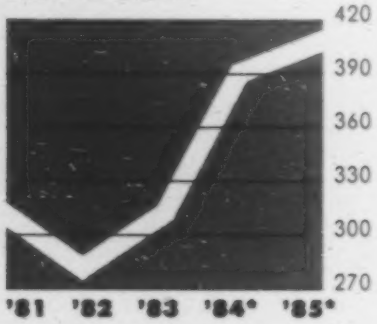


Source: MVMA
*IA estimate

INDUSTRIAL COATINGS; PLASTICS

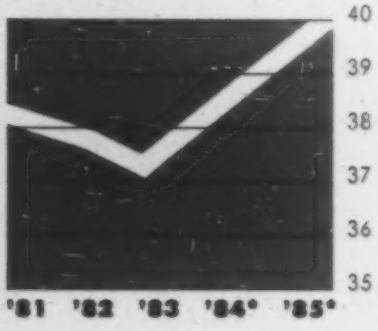
Prospects are improving for the industrial coating market in the year ahead.

Industrial Coatings, Shipments
Millions of Gallons



Source: U.S. Dept. of Commerce
*IA estimate

Plastic Resins Sales & Captive Use
Billions of Lbs



Source: SPI Committee on Resin Statistics, compiled by Ernst & Whinney
*IA estimate

INDUSTRIAL COATINGS—Shipments of industrial coatings likely will grow from an estimated 390 million gallons in 1984 to 410 million gallons in 1985.

The strongest growth will come in coil coatings. An executive in one coil-coating firm forecasts that market to grow by 10 pct in 1985. He expects the total market for industrial coatings to increase by 8 pct this year.

Other industry executives are more cautious. "We've had two record years in a row at our company," said the vice president of a leading coater. "1984 was a fantastic year for us. We'll have trouble matching our 1984 figures in 1985."

He expects industry shipments in 1985 to drop 5 pct below or at best equal those in 1984. "Coil coatings will grow by 7 pct at best in 1985," said the vice president. "But its growth rate has flattened since April 1984. Before then, coil coating was growing at 15-pct rates each year."

"We're shipping more coil coatings to automakers," said the executive, "mostly for uses like seat parts, hanger bars, and under-hood parts."

For the entire industrial-coating industry, said one vice president, "office equipment should be the shining light of 1985. It's booming now and should stay strong through most of 1985."

One trend troubling the coating makers is the growing number of laws requiring them to label all possible hazardous chemicals. The laws and lawsuits will accelerate the trend toward higher-solid coatings.

"The industry has gone from 30 to 50 pct solids in the past few years," said one vice president. "That's reduced the number of gallons by 3-5 pct each year. The trend probably will continue until our coatings contain 70-80 pct solids."

PLASTICS—The plastics industry enjoyed a 5 pct increase in the sales and captive use of all plastics this past year over 1983.

The bigger area of the two, thermoplastic resins, which includes such materials as the polyethylenes, polypropylene, ABS, the nylons and the polyvinyls, had a strong year. This showing made up for the comparatively weak year exhibited by the thermosetting resins, which includes the epoxy and the phenolic resins.

Looking ahead, the prognosticators seem to be more conservative about 1985, wherein a 2 pct gain in overall sales and captive use seems probable.

There are those who have predicted that plastics has seen its miraculous growth and that, from hereon in, the market will flatten out at best. But, this was all before plastics began to penetrate the bottle and beverage can markets. This year will see more penetration into the container market.

According to one executive, plastics have just begun to penetrate the food packaging market. At present, plastics only has about 10 pct of this $7 billion market. But, plastics R&D is churning out new materials all the time and it will probably only be a matter of time before most foods will be packaged in plastics. More of these substitutions will be seen in 1985.

Plastics will continue to chip away at the automotive market, where they now account for 7 pct of the nonstructural parts in cars on a weighted basis. Plastics producers are looking for that figure to triple in time, but 1985 is not expected to be a banner year in that regard.

Among the individual plastics moving well in 1984 are polypropylene, nylon resins, and polyvinyl chloride and copolymers.

MACHINE TOOLS; FLUID PLOWER

MACHINE TOOLS—Machine tool manufacturers are still being bombarded by foreign producers and few expect good news in 1985. "All you have to do is look at the latest figures on the import share of market and you'll see what we're up against," said one U.S. lathe maker.

Still, not everyone in the industry is in favor of 232 and quotas.

Major markets for the industry are expected to continue their recovery well into 1985. "We're quite confident that the first half will be good. We're not so confident about the rest of the year. That deficit spending routine cannot go on forever. That's why we're worried," said an industry executive.

Others expressed hope that the recovery be as "classical as possible" so that the manufacturing world would see slow but steady growth.

But, even should the American machine tool market boom in coming months, there's some question about what share of the market would be domestic and what share foreign.

"We're looking for a very good first half, with or without 232," noted one Midwest builder. "All that we're worried about is the economy in general. If we don't start talking ourselves back into a recession, we see every reason for a steady climb back up to 1979 levels. The pent-up demand for modern machinery must be enormous," he added.

Other machine tool manufacturers noted that interest rates are still out of line. "Some people don't believe low inflation rates will stay low," pointed out an industry analyst.

This year is believed to be better than 1984 with a much better first half. But, as one builder put it, "much of our future, like it or not, is made in Washington."

FLUID POWER—The fluid power industries continued to grind down in the fourth quarter of 1984 in many of the important market areas.

One of the big sources of decreased activity seemed to lie with heavy mobile equipment.

The industry is being conservative in its forecasts for 1985. Producers of hydraulic systems for farm and construction machinery still were revising 1985 forecasts downward in the closing months of 1984 and are now only looking for a 5 pct gain in 1985.

For an industry that was showing gains of 50 pct in first quarter 1984, the 1985 estimate comes as quite a cutback.

It comes as no surprise that part of that caution is concern about imports into the U.S. market.

European producers are forecasting for 1985 to average out at about 3 pct. Some producers of hydraulic systems in the Far East are estimating gains of 10 pct in 1985 with a substantial portion of that total aimed for the North American marketplace.

Import tonnages could impact prices as well as volume. The general pricing trend has not been moving ahead as well as volume gains would have suggested during 1984.

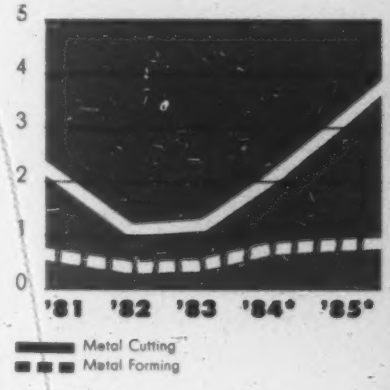
It looks like 1985 is going to see a reoccurrence of that problem. In 1985, the dollar gain won't be as great as the potential for actual increases in sales.

A number of companies, as reported in earlier *Iron Age* forecasts, have been introducing new products during 1984. This will help a number of companies and will offset lukewarm prospects in some markets.

All indications appearing on the horizon point to a very moderate 1985 gain in dollar volume.

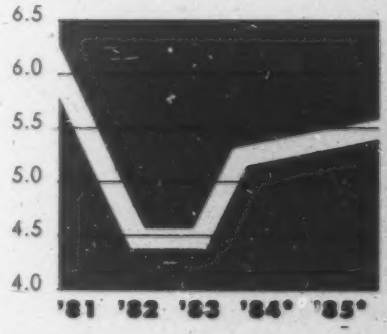
Despite imports, the machine tool industry looks for an improved year.

Machine Tools, Net New Orders
Billions of Dollars



Source: NMTBA
*IA estimate

Fluid Power Shipments
Billions of Dollars

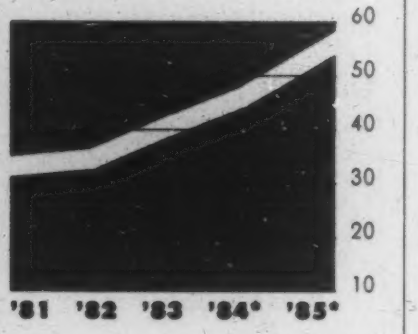


Source: U.S. Dept. of Commerce and NFPA
*IA estimate

COMPUTERS; INSTRUMENTS & CONTROLS

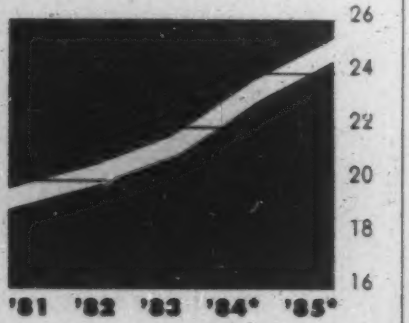
There just seems to be no stopping the fantastic growth in computers.

Computers, Shipments
Billions of Dollars



Source: U.S. Dept. of Commerce
*IA estimate

Instruments & Controls, Shipments
Billions of Dollars



Source: U.S. Dept. of Commerce
*IA estimate

COMPUTERS—Despite predictions of a slowing economy in 1985, the computer industry should enjoy another year where the rate of growth approaches 20 pct. The computer revolution that started in the major corporations, is still finding fertile ground in the offices and factories of medium-size and small-size manufacturers. But while mainframes and minicomputers will continue to sell well, microcomputers and personal computers continue to receive the lion's share of the interest and should again lead the pack.

Even hotter than personal computer sales are the sales of software to run computers. Sales last year grew at a rate approaching 35 pct. This year, that 35 pct growth rate should continue.

Rather than buy large pieces of capital equipment like machine tools to improve productivity, manufacturers, to a large extent, are turning to the computer and and increasing amount of software that is available in order to improve production efficiencies. To address production more directly, computers are moving closer and closer to where the action is: the shop floor. Personal computers, for example, are becoming more rugged and are appearing in various guises directly on the shop floor to run machinery, act as terminals, and perform independent analysis and control.

While computer equipment sales remain strong in this country, the increasing number of computer components and peripherals that are produced overseas and imported into the U.S. is a growing concern.

Because of these imports, the U.S. actually has a trade deficit in computer equipment. That deficit should ease a bit in 1985. The U.S. dollar is expected to weaken this year which should make computer products more attractive overseas.

INSTRUMENTS—Shipments of all types of instruments and controls in 1984 rose about 10 pct, to an estimated $23.5 billion, reflecting a strong increase in investment in plant and equipment during the latter half of 1984. The outlook for 1985 is for continued growth and appears to give credence to the Dept. of Commerce's earlier projections for the industry to grow at a compound annual rate of 3 pct through 1988, after adjusting for inflation.

The dip in interest rates at the end of 1984 favors a stronger construction industry in the first half of 1985 for residential and non-residential construction, both of which translate into increased business for the instrument and controls manufacturers. At year's end, the construction industry reported modest gains in new starts and described the industry's condition stabile.

Environmental and energy-saving controls are on an upward trend and are expected to continue at a high level, as both residential and non-residential users modernize and replace controls with those having greater capability and reliability.

U.S. exports of industrial process controls rose slightly, by 3 pct, in 1984 to $688 million, based on six months figures. This may seem gratifying in view of the strong U.S. dollar, weak foreign economies and increased competition from overseas firms, but the shocker to the industry is a 44 pct increase in imports in 1984. Imports of industrial process controls represented a $300 million loss in domestic sales.

Industry analysts point out that part of the loss to imports is due to suppliers who have moved to Canada and Mexico. More important, exports from Japan represented a major portion of the imports and their 1984 sales doubled.

TUBULAR GOODS; MINING EQUIPMENT

OIL COUNTRY—A strong increase in shipments of oil country tubular goods appears likely to continue through the remainder of 1984. Most industry indicators remain strong, and many officials foresee a strong growth trend continuing well into 1985.

The market is being aided by a number of factors. The rig count utilization rate has climbed steadily since April and has increased some 12 pct over the comparable period of one year ago. Crude oil prices have remained stable; most experts foresee that trend continuing through at least the end of the year.

The total footage of oil and gas wells drilled in the U.S. is up nearly 14 pct from last year. Also, excess inventories of pipe and tube have begun to evaporate.

Despite the generally positive trends, there are still some potentially adverse elements that could impact the industry. While OCTG shipments may nearly double from their 1983 levels by the end of this year, they are far below the peak years when domestic mill shipments averaged 2.5 million tons annually. The most positive predictions for 1984 foresee 1.2 to 1.3 million tons shipped from domestic mills.

Foreign mills have dominated the market for most of the year, and increased shipments of imports have out-paced domestic production.

Another issue is that recent pipe and tube consumption has been greater in the carbon grades than the more expensive alloy grades, but recent drilling has been concentrated in more shallow wells.

Looking ahead, increased drilling activity in the Gulf Coast and new exploration efforts off California are good reasons for optimism. Nevertheless, a battle is likely between domestic suppliers and their aggressive foreign counterparts.

MINING EQUIPMENT—This year mining equipment can be expected to be a mixed bag, and perhaps a very dismal year at least for the first half.

The two-year-old recovery has eluded most mining equipment companies. In fact, as 1984 came to a close, the mining industry was, in some areas, in its worst shape since the 1930's. This scenario was particularly true of iron ore mines.

Iron ore property owners continue to close and sell mines, and cut back production throughout the Upper Peninsula of Michigan and northern Michigan. One reason was the slump in steel, but a more ominous threat was foreign ore.

With iron ore mines closing and coal companies worried about acid rain and energy conservation, there seems little to feel optimistic about for 1985.

Over the past year, coal mining equipment manufacturers found 1984 to be more generous to them than any year since 1979. However, "our industry hasn't had anything happen to it that I'd call generous in quite some time," said one coal equipment maker. "Things do seem to be moving up steadily and I'm convinced 1985 will be more of the same steady growth as 1984."

Coal has no import problem. What hinders coal is the decades-old pollution issue. "Everybody says coal is great until you burn it," quipped one industry expert.

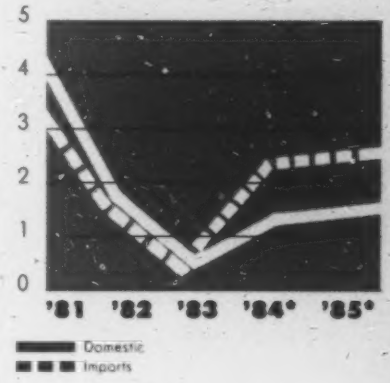
What bothers coal company executives is the growth rate in coal usage. "The stuff still lights up the country and keeps Houston habitable," noted one coal executive.

Other types of mining are not nearly so cheerful as King Coal. Copper mining was no source of optimism for equipment makers in 1984 and this coming year is expected to be no improvement.

It seems that business in the oil coountry is showing signs of improvement.

Tubular Goods, Shipments

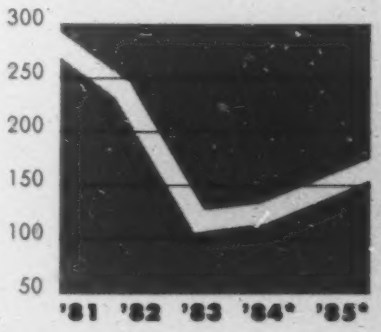
Millions of Net Tons



Source: AISI
*IA estimate

Mining Equipment, Sales

Millions of Dollars

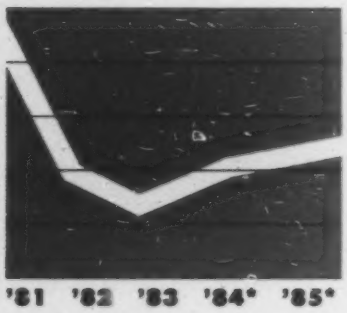


Total U.S. and export figures, based on present dollars; includes continuous miners, mobile loading machines, shuttle cars and cutting machines.
Source: Mining Equipment Manufacturers
*IA estimate

CONSTRUCTION; FARM EQUIPMENT

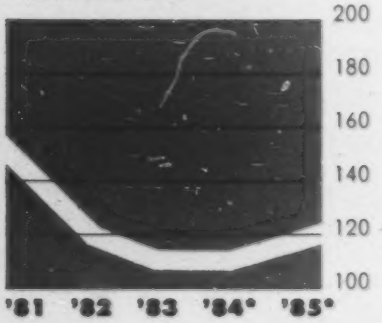
The problem has been that the recovery is well below the peak levels of '80 and '81.

Construction Equipment Shipments
Billions of Dollars



Source: U.S. Dept. of Commerce
*IA estimate

Farm Equipment, Wheeled Tractor Sales
Thousands of Units



Source: Farm & Industrial Equipment Institute
*IA estimate

CONSTRUCTION EQUIPMENT—The recovery in construction machinery shipments that got underway in 1983 continued into 1984, with retail sales up strongly in the first half of 1984. This recovery of lost ground drove shipments up almost 30 pct in 1984, though the rate was much stronger, on a year-to-year gain basis in the first two quarters of 1984.

The outlook for 1985 is considerably more cautious for an industry that got a stronger recovery in 1984 than had been expected. The problem has been that the recovery still is well below the peak levels reached in 1980 and 1981. It is hampered stiff price competition.

Not only is the import problem proving more difficult each year, but export sales that were at one time 50 pct of the sales totals for a number of big U.S. machinery builders, are still sinking. Industry observers are also watching plans by off-shore equipment builders to step up their efforts in the U.S. market in 1985.

Mitchell Quain, of Wertheimer & Co., speaking at the Construction Industry Manufacturers' Association (CIMA) Annual Forecast Meeting, said 1984 was up about 30 pct, (about 10 billion in shipments) a little stronger than the sample taken by CIMA among its members.

The forecasts for 1985 are cautious. Though the average predicted gain is about 9 pct, some big ticket items like crawler tractors are predicted to go up only 4.5 pct in the U.S. market and a little less than that in the Canadian market. But the most positive outlook is in the highway related machines, where gas tax money, about $20 billion of it by one estimate, is moving into the marketplace in growing quantity which could result in paving machines moving up 12.7 pct in 1985, on top of a 1984 gain of 25.7 pct.

FARM EQUIPMENT—With cutbacks at nearly every major farm equipment company, prospects from a supplier standpoint don't look to be much better than a 4 pct gain in 1985. Efforts to cut back dealer field inventories, partly successful during 1983, were undone when the industry began to pick up for 1984 on a forecast of a 10 to 15 pct gain.

Farm equipment forecasts, originally expected to show a stronger 1984, slipped steadily through the year. Despite some recovery in farm commodity prices in the first half of 1984 and the advent of PIK money and some new export grain orders, 1984 continued to look less attractive as the year wore on.

Almost every new forecast that came out during 1984 showed another downward revision. By the end of the first three quarters, combines were off 21 pct for the year, the Farm & Industrial Equipment Institute noted in a recent survey of its members. Combines and tractors are the two biggest dollar items on the farm equipment list. Farm tractors were down about 2 pct.

In addition, items like forage harvesters which had held up relatively well in the past, were off 20 pct.

Ford Tractor's M. H. Manning said earlier a 4.2 pct gain in 1985 tractor sales was possible but cautioned that low crop prices and weak export markets would affect the industry all of 1985.

J. I. Case president Jerome Green also put the forecast in the 3 to 5 pct range, and Victor Rise of Massey-Ferguson Ltd., sees little change in the U.S. or Canada in 1985 over the past year.

Traditionally, the first and second quarters are the strongest manufacturing periods for farm machinery. But as the fourth quarter closes there's no sign of it occurring any time soon.

APPLIANCES; MATERIAL HANDLING

APPLIANCES—The outlook for the major appliance industry's shipments during 1985 continues to be upbeat following a record-setting performance in 1984. Shipments by the end of 1984 are expected to exceed 39 million units, the highest level reached since 1973 when shipments amounted to 35.8 million.

Among the star performers in the industry were sales of microwave ovens. These appliances took a dramatic upturn during 1984, with shipments exceeding one million units during the month of October. This was a first for the industry.

Combination microwave/oven-ranges gained with consumers; in the first ten months of 1984, sales increased 57.5 pct over 1983.

With no negative factors affecting the industry at the end of 1984, most producers are optimistic.

Many positive indicators support the forecast for continued improvement in major appliance shipments during the first half of 1985. Some industry analysts project a decline in shipments toward the end of 1985 because of the threat of sustained high interest rates.

With a six-month lag between housing starts and appliance sales and interest rates dipping at the end of 1984, sales could receive a shot in the arm during the first quarter of 1985. The replacement market is encouraging and industry sources point to the 280 million units sold during the 1962—73 period. This could mean a huge replacement market for some time to come.

The consumer need for an increased number of features, greater reliability and versatility of solid state control technology, and improved energy efficiency are the driving forces in the replacement market. The new models are no mere cosmetic substitutes for the older models.

MATERIAL HANDLING—Most companies in the material industry expect a continuing upward trend in the first half of 1985 following a very significant improvement in business in the second half of 1984.

"We're way up over 1983, but that's putting us at hardly half of our last good period," said an industry source. "We are cautious about 1985, especially late 1985. The deficit, to me, is the big problem or symbol of the problem the whole economy faces. If that starts to come down significantly, then we can see long-term steady growth."

Others in the industry agree. Material handling companies, in general, reported healthy statistics throughout 1984 with some gloomy spots in the industrial truck end of the business. "We see 1985's trend as similar to 1984's," said one large systems company. "But, I wouldn't want to be in the lift truck business today or tomorrow," he added.

The "lift truck problem" actually puts light on the fact that the domestic material handling industry has had little problem with foreign competition. Except for trucks, the industry's products and services are customized to an extent that foreign market penetration has so far been negligible.

Others in material handling said they believed that industry is still in an inflationary state psychologically. "The reason interest rates remain where they are is that people don't believe inflation is really under control. Those interest rates, in turn, keep quite a few of our customers out of the market for our products," one large systems maker explained.

"Our optimism is perennial," said one observer. "We believe we make something essential. Unfortunately, the market doesn't always buy what it's supposed to buy."

These are boom times for appliances. How much longer will it last?

Appliances, Shipments,
Millions of Units

Source: Association of Home Appliance Manufacturers
*IA estimate

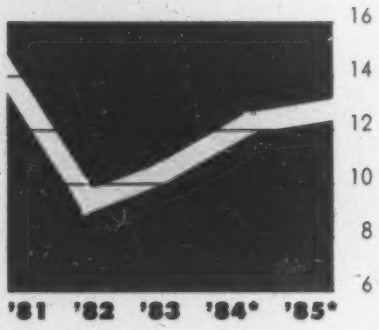
Material Handling, Shipments
Billions of Dollars

Source: Material Handling Institute
*IA estimate

CASTINGS; FORGINGS

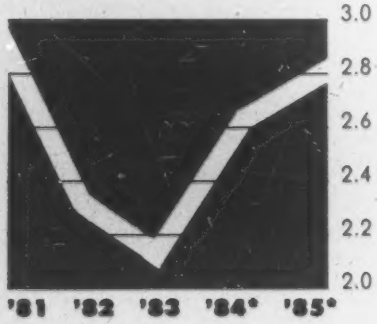
It would appear that the big spurt in castings has finally come to an end.

Ferrous Castings, Shipments
Millions of Tons



Source: U.S. Dept. of Commerce, Iron Castings Society
*IA estimate

Impression Die Forgings, Shipments
Billions of Dollars



Source: Forging Industry Assn.
*IA estimate

CASTINGS—The foundry industry has exceeded all its forecasts in 1984. The industry increased its performance by huge margins over what it had expected a year ago.

The same cannot be said this year, however. Triggered by unseasonal declines in October and September of 1984, a number of castings producers began to cut 1985 forecasts back almost as soon as they'd written them.

Business was still good through the fourth quarter.

The opinion is that 1985 will be a year of few gains and the second half could see a slide backward. The foundry industry traditionally does its best business in the first and second quarters. There is some conjecture, however, that the second half of 1985 will see a new wave of import competition. This competitive force has been gaining steadily and hasn't been offset by any gains in offshore sales by U.S. producers.

The outlook as the year begins is for about a 3 pct gain in ferrous castings and a 5 pct gain in nonferrous castings. The gains in nonferrous will be led by copper and brass in the fourth quarter of 1984, while aluminum castings are expected to exceed what many forecasters thought possible.

There is also more comment about "reciprocity." A company that exports from the U.S. and builds or assembles its export goods in foreign markets is being told it must buy more components abroad if it wants to sell overseas.

In 1985 the situation could get worse. Some forecasts by U.S. foundries are already based on that assumption. Foundries that scored a 20 pct plus gain in tons shipped in 1984, talk now about zero gains in 1985, and possibly a "mini-recession" that will push shipments below 1984 level.

FORGINGS—Despite major pick-ups in orders and shipments in 1984 compared to 1983, business for many forging companies last year was no better than average. Despite a few bright spots, such as improved sales to automotive firms, the continuing depression of many markets that traditionally are heavy users of forgings such as commercial aircraft, farm equipment, construction, and the oil field goods markets, made 1984 a lean year for many forging companies.

Preliminary figures indicate that 1984 shipments of custom impression die forgings reached $2.6 billion, a 24 pct increase over 1983 shipments of $2.1 billion. Custom impression die forging bookings also approached $2.6 billion, an increase of 29 pct over 1983's $1.9 billion. Although shipments improved last year, they were far (without even considering inflation) from the $2.9 billion 1981 figure.

In 1984, forging orders slipped in the third quarter after a respectable showing in the first two. And early indications are that the fourth quarter was about on par with the third. Some improvement, however, in the first quarter of 1985 is expected.

The performance of this year depends on several key factors. One is the continuing vigor in the auto industry.

A second key is a resurging petrochemical industry. Last year there were scattered indications that the industry purchases were increasing. Officials believe these few orders will grow through 1985.

Key number three is a long-delayed pickup in the aviation and aerospace industries.

If these keys do not unlock new business and if imported forgings increase markedly in 1985, the impression die forging industry will be in for a long year.

AIRCRAFT; ENGINES & TURBINES

AIRCRAFT—The major airframe manufacturers continue their slow but steady climb out of the recessionary economy that has been affecting the industry for more than two years. Orders for new aircraft were dramatically higher during the first half of 1984 than they were a year ago. Most industry officials are looking for this order surge to abate in the third and fourth quarters. Even so, new orders for 1984 already have surpassed the severely depressed level for all of 1983.

Restored profitability for airline companies operating both in the United States and overseas is being cited as the single most important factor working to bolster the industry. Lower fuel prices also are helping the airline firms climb out of the recessionary spiral and update their fleets with new orders for more fuel-efficient aircraft.

Nevertheless, despite projected growth in passenger traffic for the third and fourth quarter, industry officials remain cautious. There continues to be excess capacity, especially in the wide-body jetliner portion of the industry. There continues to be price pressures on airframe manufacturers which is resulting in unique financing arrangements and the trade-in of older airplanes.

For example, Seattle-based Boeing Commercial Aircraft Co. announced in mid-August that Saudia, the national airline of Saudi Arabia, had ordered 10 747-300 airliners, a deal valued at about $1 billion. But Boeing agreed to be paid for the aircraft in a quantity of oil equal in value, at the official government price, to the price of the airplanes.

Such barter arrangements are relatively unique to the industry. But they underscore the lengths to which airframe manufacturers must go to successfully conclude sales of new craft.

ENGINES & TURBINES—Shipments in this wide-ranging market have held steady or slightly improved during the past few quarters, a trend that should continue through 1985.

Some improvement has been noticed in selected segments of the industry. Diesel engine makers report slightly increased activity in engine sales as a result of leveling interest rates and an improving stock market. But the long-term confidence level remains uncertain, and many customers are holding back until they are convinced the generally positive economic trends will hold up through the fourth quarter.

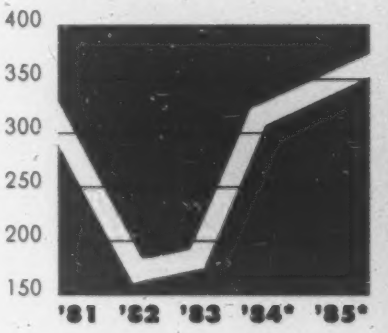
The oil segment of the industry remains sluggish. The hydropower end of the market is being affected by imports. Construction equipment has shown some improvement, but the uncertainty surrounding future interest rates makes any prediction of a substantial recovery in that segment dubious.

As for giant turbine generator sets, these continue to suffer as utility companies scale back earlier plans for expansion. The continuing controversy over nuclear energy—and the well-publicized problems facing several nuclear plans that have either recently opened or are soon scheduled to do—act as further drags on the industry.

Many industry officials and analysts expect a rebound of sorts to take hold. But it is unlikely to occur in the second half of 1984. A move to substantial orders for new engines and turbines probably would not be felt until some time in 1985. Short-term predictions continue to remain cautious, as they have through most of the year. The well-publicized general economic recovery will have to be sustained for a long period before the results translate into new orders.

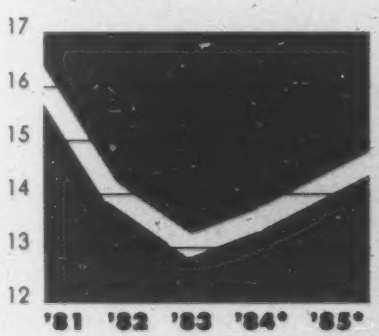
There continues to be excess capacity in the wide-body portion of the industry.

Commercial Airplane Orders



Source: Airbus Industrie, Boeing and McDonnell-Douglas
*IA estimate

Engines & Turbines, Shipments

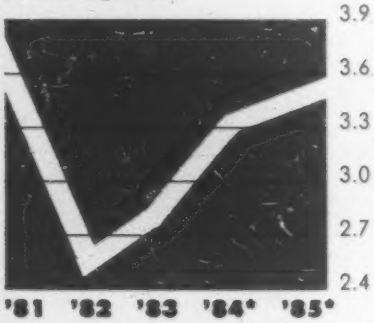


Source: U.S. Dept. of Commerce
*IA estimate

WELDING; HEAT TREATING

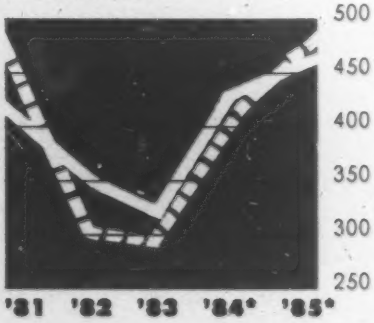
The long predicted growth in robotic welding still has not taken place.

Welding, Shipments
Billions of Dollars



Source: National Welding Supply Assn.
*IA estimate

Heat Treatment
Millions of Dollars



Billings of Commercial Heat Treaters
Heat Processing Equipment Orders

Source: Industrial Heating Equipment Assn.
Metal Treating Institute
*IA estimate

WELDING—The welding industry came out of its doldrums with a $3.3 billion year in 1984. This was a strong 18 pct gain over the previous year. Statistics compiled by the National Welding Supply Association, Philadelphia, also show a healthy 18 pct gain in business over 1983. Looking ahead, business should pick up by 5 pct or so.

For the first year in history, the sale of continuous welding wire exceeded that of stick electrodes. Industry pundits say that trend will continue next year and so on.

The health of the welding industry is somewhat remarkable because commercial shipbuilding, a huge market for welding, went overseas years ago. Now, another big welding market, the pressure vessel fabrication business, appears to have gone overseas as well.

The long predicted growth in robotic welding still has not taken place, although it could gather momentum this year. The sale of robots for welding increased in West Germany from 250 units to 800 in a single year, and the United States tends to follow several years behind the West Germans when it comes to opening up new markets in welding.

Automation is making its presence felt, especially in the smaller shops, and the microprocessor is becoming a more familiar sight in many weld shops.

As far as new business is concerned, a welding distributor in the Southwest said: "The deregulation of natural gas will be an impetus in the expansion in the chemical industry here, and equipment sales are posting big gains now."

Some executives indicate that business is beginning to flatten out and that most big users of welding equipment are not ready to spend on new equipment but seem to be content to "shore up" what they have.

HEAT TREATING—A very conservative sales forecast of 7.5 pct in heat treating is the expectation by a number of heat treating companies—though individual heat treating companies show a wide range of estimates from zero gain up to as much as a 20 pct climb during 1985.

In the first nine months of 1984, metal heat treaters had already scored a 36 pct gain. In first quarter, heat treating billings were up 40 pct from the year-ago period in first quarter. Billings dropped slightly in second quarter, but managed to post a gain over the year earlier.

Heat treating equipment sales were more volatile. Sales were up 37 pct in first quarter of this year, according to reports from the Industrial Heating Equipment Association (IHEA). Sales also posted a gain of 80 pct in domestic equipment orders in second quarter of 1984.

The total figures are even more impressive. Foreign orders for equipment, because of the strength of the dollar, were down 23 pct for the first half of 1984. They decreased from $19.4 million in the first half of 1983 to $14.9 million in the first half of 1984.

The dollar value impact will be even tougher in 1985, industry observers said. Not only will the dollar continue to be relatively high in value compared with other currencies; but foreign capital goods producers are expected to make a particularly heavy thrust into American domestic markets to reap the advantages of their low currency values before the dollar does begin to soften again.

Heat treating, since it does much less export than do the heat treat equipment builders, isn't as directly affected. But capital goods builders are an important user of heat treated metal and their caution about 1985 is going to be reflected in only very moderate advances during 1985.

SCREW MACHINE PRODUCTS; FASTENERS

SCREW MACHINE PRODUCTS—Reflecting the general recovery experienced in the latter months of 1984, the screw machine products industry's shipments increased an estimated 10 to 11 pct over 1983, with shipments valued, in constant dollars at $1.325 billion in 1984 and $1.188 billion in 1983.

Since a major portion of screw machine product shipments are for automotive products, industry analysts project slightly slower growth in 1985. Shipments of screw machine products in 1985 are estimated to increase 10 pct over 1984, to $1.460 billion.

During 1984 the screw machine products industry expressed concern over how they and the automotive manufacturers could implement the concept of 'just-in-time' delivery. While the concept strongly favors screw machine product suppliers, it also presents some severe problems, particularly in the area of shorter batches and increased statistical quality control of the product. As the industry wrestles with this problem, at least both parties recognize that the very nature of just-in-time delivery implies that the suppliers are outside vendors.

The domestic screw machine industry is also expected to benefit by anticipated future limitations of offshore deliveries.

However, offsetting this positive note is the fact that imports of consumer electronic components and automotive products, either as components or as complete vehicles, must be considered by the industry as indirect imports and thus very much a negative factor on the well-being of this industry.

The number of screw machine shops has been relatively stable compared to 1977, with about 1,765 establishments, including 634 firms that employee over 20 employees.

FASTENERS—While the recovery was moving ahead in the fastener industry's markets in 1984, domestic nut and bolt makers were not roaring about their own upturn. What the recovery meant for standards makers in the U.S. was a terrific import increase, and there will likely be more of the same in 1985.

"There is no way we can compete with foreign sources of standard nuts and bolts. This industry has been shrinking for years and the recovery has actually moved that ahead by inviting a huge increase in foreign product," lamented one U.S. standards producer.

Engineered fastener makers reported a very good 1984 and suggested a better 1985. "We expect 1985 to be up over 1984 for us by 35 pct. That, of course, is up over a mediocre year," said one official.

The industry reported a more optimistic outlook, particularly for first half of 1985, than it has had for the last few years.

Order rates are up in all major markets for engineered fasteners and, even with the import surge, some U.S. commodities producers reported healthy business expectations for 1985.

For the first half of 1985, most companies projected an increase of between 10 and 15 pct over the last half of 1984. A few are much more optimistic. "Defense spending will move the order rate up enormously in 1985," said one manager.

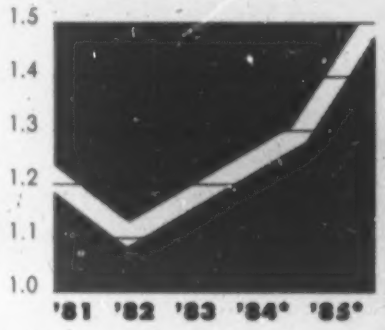
"As for imports, that seems to be a permanent part of our business landscape. However, I don't believe we're going to see any more companies leave the business. I believe what's left is competitive and profitable," said one industry analyst.

Others in the industry agree and predict a 1985 that will show significant increase in sales of fasteners of all types.

Shipments in 1985 are estimated to increase 10 pct. over 1984.

Screw Machine Products, Shipments

Billions of Dollars

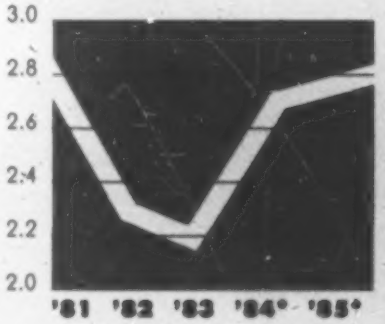


Note: Includes products produced by single spindle and bar automatic machines only.

Source: U.S. Dept. of Commerce
*IA estimate

Fasteners, Sales

Billions of Dollars



Source: Industrial Fasteners Institute
*IA estimate

BEARINGS; STAMPINGS

BEARINGS—The antifriction bearing industry, which saw growth of about 12 pct in 1984, will be hard pressed to do as well in 1985. An increase in constant dollars of 6 pct is predicted for the 1985.

The real driving force in the improvement of bearing sales last year was the strong showing of the automobile industry. Most experts expect slower auto sales rates in 1985. Car and truck sales should remain strong through the first six months of this year and tail off in the last two quarters.

This decline will come, say experts, because of slowing real income growth, rising interest rates, and a slowing economy. A cooling economy will affect more than just bearing suppliers to the automobile market. Sales to the appliance industry, should level off also.

A substantial increase in bearing imports will also help depress domestic bearing sales this year. After a decline in imported bearings in 1983, 1984 experienced an increase of 27 pct over the year before. Officials are predicting the rate of increase in 1985 will be in the neighborhood of 16 pct.

Despite the surge in the economy in 1984, a number industries that are traditionally major buyers of bearings had mediocre years last year. These include the machine tool industry, which has seen some pick up but not the significant order increase that was expected. The construction equipment and especially the farm machinery builders have had a gloomy year, as have the aerospace and oil field goods industries.

Some of these depressed industries, however, could show some life this year. Demand for aircraft should pick up, especially if the dollar weakens, and there are some indications that the oil field market will grow this year.

STAMPINGS—Although the lustre of 1984 began to disappear in the latter half, stamping industry officials sound reasonably certain their industry won't be tarnished much this year, at least through the first half.

Last year was a good one for the industry, with orders expected to finish between 15 and 17 pct higher than 1983.

While most stampers agreed on a plateauing of shipments in 1985, they're still looking for a 'reasonably' good 1985.

A glance at the December, 1984 report from the *American Metal Stamping Assn.* showed contract metal stampings shipments up sharply in October, hitting the highest monthly level since March, 1984. October shipments moved up 12 pct from the previous month, and were 15 pct ahead of the October 1983 figure. Year-to-date shipments were up 29 pct ahead of figures for the first 10 months of 1983.

"All things considered, it looks like October will represent the high-water mark for shipments in the second half of 1984," enthused AMSA president Jon E. Jenson, adding that a gradual decline for November and December was likely.

A look at stamping markets showed Detroit coming off a banner year in 1984. This performance by the automobile producers benefitted stampers serving the industry.

In other industries; although mortgage rates crimped housing starts in 1984, this didn't dent appliance sales as the industry posted a tremendous year.

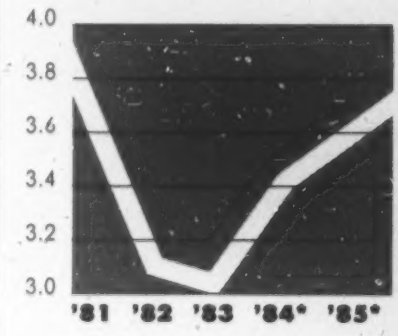
Additionally, stamping industry officials look for no orders decline from either their business machines or computer customers.

As for inventory building, less than more stampers are piling up their stocks in 1985.

Officials predict the rate of increase in 1985 will be in the neighborhood of 16 pct.

Antifriction Bearings, Shipments

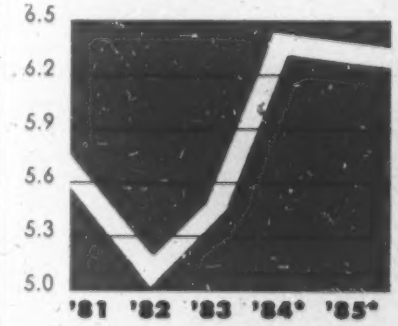
Billions of Dollars



Source: U.S. Dept. of Commerce
*IA estimate

Stampings, Shipments

Millions of Dollars



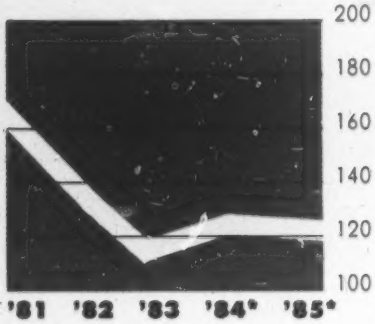
Based on the average of a control group whose shipments total more than $500 million annually.

Source: American Metal Stamping Assn.
*IA estimate

GEARS; VALVES

Conservative, forecasts call for 1985 orders to increase about 4 pct over the 1984 level.

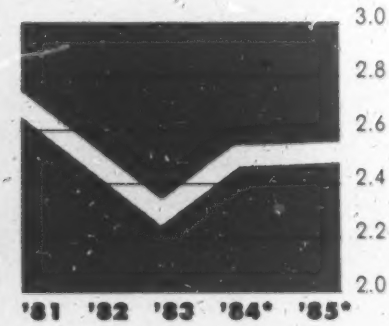
Gears, Bookings



Based on average monthly bookings, 1977 = 100

Source: American Gear Manufacturers Assn.
*IA estimate

Valves, Shipments
Billions of Dollars



Source: Valves Manufacturers Assn.
*IA estimate

GEARS—Trailing the general economy by some six to nine months, the gear industry is still feeling the economic euphoria the market exhibited in the first-half of 1984.

Consequently, the third and fourth quarter pinch felt by some other industries shouldn't be affecting gearmakers until the first quarter of this year.

Conservative industry forecasts see 1985 orders increasing about 4 pct over the 1984 level.

This past year, the industry's improvement was revealed in September figures from the American Gear Manufacturers Assn., which showed bookings had risen 16.7 pct in industry dollars from the previous month and stood 24.9 pct ahead of the September 1983 level.

However, the AGMA report also noted that September 1984 shipments trailed those of a year ago.

For instance, in September 1983 they stood at $70.3 million compared to $64.2 million the same month of 1984.

An Eastern gear manufacturer voiced his concern over "the continuing slide of the major economic indicators during the latest months," which, he feels, are a harbinger of recession.

Generally though gearmakers see more of an upturn for their products. As one source pointed out, apparently nobody has told Chrysler that auto sales have slipped in recent months. The company has not only recalled laid-off workers but, according to chairman Lee Iacocca, is now "hiring off the street."

Still, some gearmakers think auto sales will taper off in the third and fourth quarters of 1985, early 1986.

These same gearmakers are also concerned that the Reagan Administration's battle with the deficit will include cutting away some gear-consuming military contracts.

VALVES—1984 was a considerable improvement over 1983 for the valve manufacturers. Business moved ahead in the first half, but skidded during the third and final quarters.

Most industry officials size up this year as "a crapshoot."

For 1985, one industry observer is expecting a 2½ pct increase (in dollars) over 1984.

Industry forecasters explained that profit earnings in 1984 should be higher than in 1983 because of operating leverage, which some manufacturers put into proper place over the last few years as a result of cost reduction efforts and their expectations that prices will improve.

As for product sales growth, one valvemaker said it will be 'across-the-board' this year.

Shipments for quarter 'turn' valves are expected to rise 12 pct in 1984 over 1983 and another 15 pct in 1985, while prospects for gate, globe and check valves are less optimistic.

In examining their domestic markets, industry observers see chemicals and petroleum relatively stable while nuclear power orders remain lackluster.

And as for new plant building, "it just isn't out there," said one Eastern valve manufacturer. This same manufacturer does envision some expansion at pulp/paper and water and waste-water treatment facilities.

Imports continue to get valvemakers' hackles up, particularly following a lost round recently to the Japanese over anti-dumping.

The continuing competitive activities of other foreign suppliers of steel valves and pipefittings continue to concern U.S. manufacturers, who are worried that downstream dumping will impact their market for perhaps four more years.

SHIPBUILDING; RAILCARS

RAIL CARS—The topsy-turvy rail car market had a fairly good year in 1984; that is, if you compare it to 1981 when 20,000 units were ordered. In 1984, orders moved up to 15,000 from a pitiful 6,000 units in 1983. But, industry analysts still look back to those years when rail car orders used to hit the 80,000 car mark.

On the other hand, those "pitiful years" of 1982 and 1983 have been described as the worst years the industry has experienced since 1938.

For next year, orders should move up a notch, to 16,000 cars. That should mean an improvement of about 5½ pct.

Over capacity continues to be the big problem. Domestic rail car producers have the capacity to turn out 90,000 units per year, yet tens of thousands of rail cars are still sitting around idle. The import problem seems to have straightened itself out, but, no matter how you look at it, the industry is still obviously in the throes of a recession.

Bethlehem Steel Corp. reported some good news early in October that it had received an order for 135 rail cars, most of which are for the Grand River Dam Authority of Oklahoma.

Over the near-term in R&D, the skyrocketing cost of diesel fuel has forced the rail car industry to put some money into the development of aluminum rolling stock. Aluminum rail cars designed for coal transport have been developed, but it's all pretty much in the prototype stage.

The U.S. Department of Commerce is predicting that good times for rail car builders are just around the corner. The Commerce Dept., in fact, is looking at 1988 as a 90,000 car year. The government agency is also forecasting that 40 pct of all rail traffic shipments will be for coal by 1988.

SHIPBUILDING—Just when it appeared that the U.S. commercial shipbuilding industry was about to bottom out completely, Exxon Shipping Co. ordered two 209,000 dwt tankers from National Steel and Shipbuilding Co., San Diego. Then, Sea-Land Service, Inc., Iselin, N.J., ordered three containerships from Bay Shipbuilding Corp., Sturgeon Bay, Wis.

Don't let these orders fool you, however. The commercial shipbuilding industry will probably have to ride with these orders and nothing else through the rest of 1985.

Over in the Navy and Coast Guard side, shipbuilders are coming off a better year than 1983, which was the best Naval shipbuilding year in a long, long time. Next year probably will not keep pace with 1984, but it will not be far behind.

The Administration's projected 600-ship Navy was hacked to some extent in Congress for fiscal year 1985, but the remaining budget is still strong enough to keep a number of shipyards busy through the rest of this year.

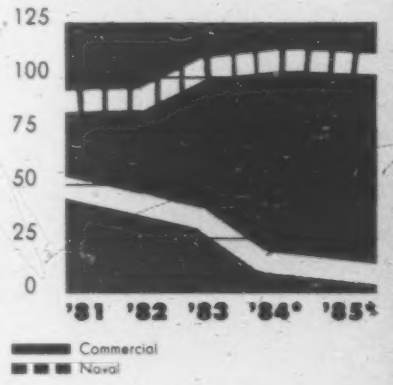
At present, 89 ships are being constructed or are on order. As far as additional contracts are concerned, the most one can expect in 1985 are 24. Thirteen of the present 89 will be completed this year, so 100 vessels would be the highest figure obtainable. Chances are, it will be less than that.

The long-range prospects are very rosy for Naval shipbuilding. During the next five years, the shipyards are expected to build 123 new ships for the Navy. Employment is expected to peak in 1989.

Expansions are under way at several yards, including Newport News Shipbuilding and Dry Dock Co., Avondale Shipyard, Bath Iron Works and at several locations of Todd Shipyards.

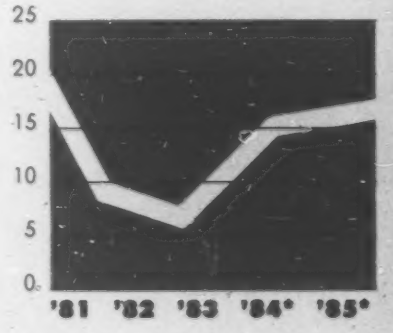
For next year, orders should move up a notch, to 16,000 cars.

Shipbuilding
No. of Vessels



Source: U.S. Maritime Administration and Shipbuilders Council of America
*IA estimate

Rail Car Orders
Thousands of Units



Source: American Railway Car Institute
*IA estimate

LOOKING BACK

IN 1984

Reagan won, Ruckelshaus quit and the Congress kept busy

Wins and losses characterized 1984, not the least of which was President Reagan's resounding re-election. But there were others, the effects of which are yet to be felt—in the U.S. Congress, in legislation (passed and not passed), in President Reagan's Cabinet, and in Supreme Court cases.

A major election loss in businesses' eyes was that of Sen. Charles Percy (R., Ill.), the leading advocate for import relief for the machine tool industry. Another strong supporter of the industry who will not be returning is Rep. Roger Jepsen (R., Iowa).

An outspoken legislator on copper industry issues—Rep. Jim McNulty (D., Ariz.)—was unseated. He will be replaced by Republican Jim Kolbe.

Generally though, little occurred this election to directly affect metals industry issues: Most House and Senate members active on steel, metals and metalworking industry issues will be returning to Washington in January.

From the White House side, losses this year included the resignations of Attorney General William French Smith, Environmental Protection Agency

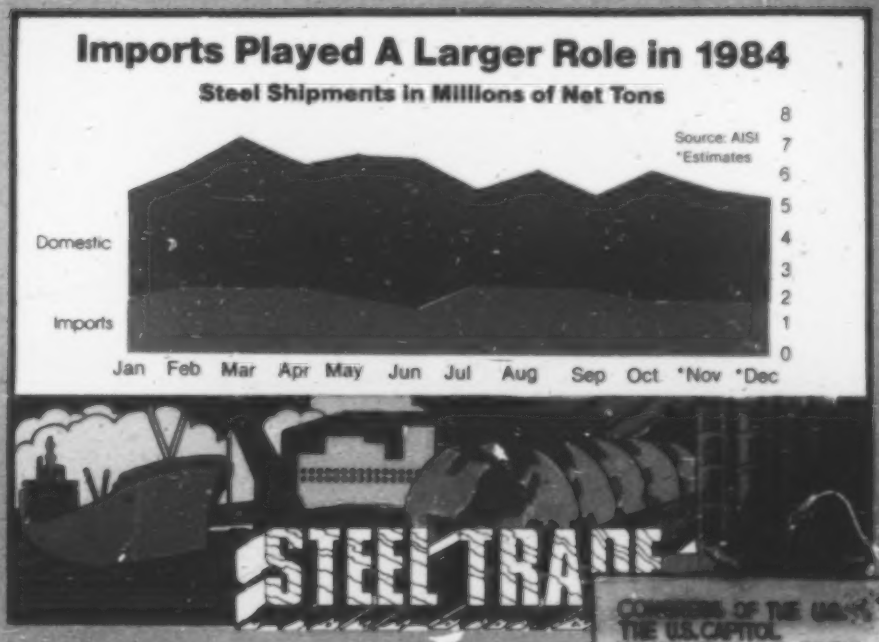
(EPA) Administrator William Ruckelshaus and Secretary of Education Terrell Bell. Mr. Smith has been staying on pending Senate confirmation of his proposed successor Presidential Counselor Edwin Meese III. Mr. Reagan's appointment of Mr. Meese was highly controversial and remains unconfirmed.

In his resignation letter, Mr. Ruckelshaus said: "The ship called EPA is righted and steering a steady course. Employee morale is high, first-rate Presidential appointees are in place, a management system has been installed that is functioning well and all of the programs have generated momentum." Nevertheless, there are reports that the biggest cuts being proposed by the White House in its latest budget plans are those for the EPA.

There were some major legislative gains this past year following initial criticism that the first session of the 98th Congress was a "do nothing" period. Paramount among the measures signed into law was the Omnibus Trade Bill. Among the bills' provisions are clauses strengthening the government's hand in limiting imports of steel and mandating more domestic investment in the industry.

Also approved was a measure allowing companies greater latitude to form joint research and development ventures.

Two pieces of legislation passed by the Congress should lead to significant changes in how the Federal government buys goods and services. The measures will benefit members of the National Tooling and Machining Association, which lobbied hard for their passage, interested in Defense Department spare parts business.



Steel got off to a strong start, but sagged in the second quarter

Steel producers went into 1984 expecting shipments to reach 77 million tons for the year.

That seemed a reasonable expectation. The auto industry was enjoying strong sales. In the second year of an economic recovery, it was reasonable to look for rising capital spending to boost plates, structurals and other products that go into capital goods.

There was, moreover, a trade agreement which limited steel imports from Europe to about 5 pct of U.S. supply. There was also supposedly some kind of understanding on shipments from Japan.

Through March 1984, the forecasts looked good. Shipments in the first quarter were at an annual rate of a little over 77 million tons. Steel prices, which had sagged to 1981 levels during the recession, began to firm. After losing $6 billion in 1982 and 1983, the industry made a little money in the first quarter.

Then in the second quarter, the steel market went flat. Steel shipments, which normally rise in the spring, leveled off at about 6.5 million tons a month. New orders plummeted.

Shipments and prices fell sharply in the third quarter. Profits disappeared. And there was no real pickup in the fourth quarter.

Part of the explanation for the downturn was the failure of capital spending to revive. The big problem, however, was a steep rise in foreign shipments. Imports went from 17 million tons in 1983 to an estimated 26 million tons.

The Japanese agreement turned out to be nonexistent or meaningless and the European restraint was offset by a 76 pct rise in shipments from developing nations.

Domestic producers addressed the import problem by filing unfair trade suits, by seeking legislated quotas, by calling for action under the injury provision of the trade act.

In this setting, the Administration announced it would seek voluntary agreements with the exporting nations.

Economy grew at a fast pace; capital spending also rose

The year 1984 started with a bang.

In the first quarter, the economy grew at a whopping 10.1 pct annual rate. That is growth measured by real GNP.

That was the strongest growth for any quarter since the second period of 1978. And it was a quarterly growth surpassed only twice over the past 20 years.

That almost too-hot pace cooled as the year went on. And it was just as well, said many economists. That hot early pace was opening the door to inflation and to a shortened, burned-out economic recovery.

But as growth continued at a more moderate pace after the first period, one component of the economy—business capital investment—continued on like gangbusters.

In the opening period when the economy grew at a 10.1 pct annual rate, business investment grew at a 20.6 clip. In the second quarter, the economy grew by 7.1 pct, investment by 21.3 pct. In the third period, the economy expanded at 1.9 pct and investment by 15.9 pct.

That relationship probably will have held fast when final data on the closing quarter is known.

GM reorganized, bought EDS; Petersen named to head Ford

Buoyed by record profits, automakers in 1984 began extensive reorganizations that will have far-reaching effects on the industry's future.

General Motors spent the entire year working out the details of the most sweeping reorganization in its 76-year history. By the New Year of 1985, virtually all personnel transfers involved in the reorganization were complete.

The new Chevrolet-Pontiac-Canada (C-P-C) and Buick-Oldsmobile-Cadillac (B-O-C) groups will be responsible for engineering, manufacturing, finance, and personnel. The old car divisions will retain only the sales, marketing, and product planning personnel.

In June GM dropped another bombshell: its decision to acquire Dallas-based Electronic Data Systems (EDS) for $2.5 billion. EDS will play a major role in streamlining the giant automaker: It will be the brains that tie together GM's massive data-processing system, keep track of dealers' orders and in-process parts, and handle health claims from personnel. GM expects EDS' added efficiency to cut GM's healthcare costs by 10 pct.

EDS not only will help streamline GM but also will continue seeking business outside the auto industry. At the time of the acquisition, 40 pct of EDS' business was health care and insurance; 33 pct commercial; and 27 pct, government services.

Chrysler Chairman Lee A. Iacocca devoted 40 pages of his autobiography to "getting even" with former Ford Chairman Henry Ford II. Mr. Ford fired Iacocca in 1978, and Mr. Iacocca's never forgiven him. *Iacocca* hit the bookstores on Oct. 15, Mr. Iacocca's 60th birthday.

But Ford Motor Co. put the Iacocca-Ford vendetta behind it with a surprisingly orderly transition in top management: Effective Feb. 1, 1985, Chairman Philip Caldwell will retire and be replaced by Donald E. Petersen, who's now Ford's president. Mr. Petersen will be succeeded as president by Harold A. (Red) Poling, who's presently vice president of Ford's North American automotive operations.

The entire U.S. auto industry likely will announce a record-breaking $9 billion combined profit for 1984. American Motors will contribute a profit of some $10-14 million—its first profit since 1979.

Automakers Kept Busy In 1984

Retail Sales of U.S.-Produced Passenger Cars

	AMC	Chrysler	Ford	General Motors	Honda	Volkswagen
1st Qtr.	49,801	239,069	487,929	1,188,081	29,096	20,963
2nd Qtr.	46,755	274,105	521,257	1,350,105	36,574	22,954
3rd Qtr.	54,733	227,957	468,534	1,051,713	33,506	17,804
4th Qtr.*	41,000	250,000	500,000	1,000,000	35,000	22,000

Source: MVMA
*Estimate

METAL PRICES AND PRODUCTION

World Steel Production

Raw steel, thousands of metric tons

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984*
Argentina	2,353	2,208	2,410	2,684	2,786	3,199	2,687	2,541	2,900	2,900	2,597
Australia	7,813	7,869	7,794	7,338	7,596	8,119	7,589	7,635	6,400	5,600	6,200
Austria	4,699	4,069	4,476	4,093	4,335	4,917	4,623	4,656	4,300	4,400	4,860
Belgium	16,227	11,582	12,145	11,256	12,601	13,442	12,322	12,283	10,000	10,200	11,228
Brazil	7,515	8,387	9,253	11,253	12,205	13,893	15,309	13,213	13,000	14,700	18,260
Bulgaria	2,188	2,265	2,460	2,589	2,469	2,482	2,567	2,482	2,600	2,900	3,260
Canada	13,623	13,025	13,290	13,631	14,899	16,054	15,901	14,811	11,900	12,800	14,836
China*	21,119	23,903	20,459	23,740	31,780	34,484	37,121	35,600	37,100	39,900	44,848
Czechoslovakia*	13,640	14,324	14,693	15,054	15,294	14,817	14,925	14,270	15,000	15,000	16,860
France	27,021	21,531	23,227	22,094	22,844	23,380	23,176	21,261	18,400	17,600	18,748
W. Germany	53,232	40,412	42,413	38,984	41,253	46,040	43,838	41,610	35,900	35,700	39,536
E. Germany*	6,165	6,480	6,740	6,850	6,976	7,024	7,308	7,467	7,200	7,200	8,093
Hungary*	3,468	3,671	3,652	3,723	3,773	3,907	3,767	3,645	3,700	3,700	4,159
India	7,068	7,991	9,364	10,009	10,099	10,126	9,514	10,780	11,000	10,200	10,520
Italy	23,804	21,865	23,455	23,335	24,283	24,250	25,501	24,777	24,000	21,800	23,992
Japan	117,131	102,313	107,399	102,405	102,105	111,748	111,395	101,676	99,500	97,200	104,896
N. Korea*	2,900	2,900	3,000	4,000	5,080	5,400	5,800	5,500	5,800	5,900	6,632
S. Korea	1,947	1,994	3,515	4,347	4,969	7,610	8,558	10,753	11,800	11,900	12,936
Luxembourg	6,447	4,624	4,565	4,329	4,790	4,949	4,618	3,791	3,500	3,300	3,928
Mexico	5,138	5,272	5,298	5,601	6,711	7,005	7,099	7,605	7,100	6,900	7,460
Netherlands	5,837	4,817	5,178	4,923	5,583	5,806	5,264	5,464	4,400	4,500	5,708
Poland*	14,556	15,007	15,640	17,841	19,251	19,218	19,485	15,719	14,800	16,400	18,434
Rumania*	8,840	9,549	10,970	11,457	11,780	12,909	13,175	13,025	13,100	13,500	15,174
South Africa	5,839	6,831	7,106	7,295	7,902	8,876	9,068	9,004	8,200	7,000	7,432
Spain	11,502	11,102	10,982	11,169	11,339	12,248	12,672	12,919	13,200	12,700	13,276
Sweden	5,988	5,611	5,139	3,968	4,327	4,760	4,237	3,770	3,900	4,200	4,464
U.K.	22,384	19,773	22,396	20,467	20,367	21,523	11,342	15,573	13,700	15,000	15,172
U.S.S.R.*	136,200	141,325	144,805	146,655	151,400	149,087	147,931	148,517	147,200	152,500	171,410
U.S.	132,195	105,816	116,120	114,700	124,002	123,276	101,696	108,782	67,600	75,600	91,131
Yugoslavia*	2,836	2,916	2,751	3,182	3,456	3,535	3,634	2,977	3,800	4,100	3,712
Others*	13,790	13,548	14,970	17,672	21,061	24,612	25,748	22,749	24,300	27,300	30,685
Total	703,783	642,980	675,511	675,535	717,159	745,448	715,018	706,856	645,200	662,600	740,447

*Estimates. Source International Iron and Steel Institute.

U.S. Yearly Raw Steel Production†

Net Tons

	Openhearth		Basic Oxygen Process		Bessemer**		Electric*		
	Production	Percent of Total Output	Production	Percent of Total Output	Product	Percent of Total Output	Production	Percent of Total Output	Total Production
1953	100,473,823	90.0	...	...	3,855,705	3.5	7,280,191	6.5	111,609,719
1954	80,327,494	91.0	...	...	2,584,104	2.9	5,436,054	6.1	88,311,652
1955	105,359,417	90.0	307,279	...	3,319,517	2.8	8,049,872	7.2	117,036,085
1956	102,840,585	89.2	506,336	...	3,227,997	2.8	8,641,229	8.0	115,216,149
1957	101,657,776	90.2	611,506	...	2,475,138	2.2	7,970,574	7.6	112,714,996
1958	75,879,394	89.0	1,323,361	1.5	1,395,985	1.6	6,656,145	7.9	85,254,885
1959	81,668,997	87.3	1,864,338	2.0	1,380,283	1.5	8,532,514	9.2	93,446,132
1960	86,367,506	87.0	3,346,150	3.3	1,189,196	1.5	8,378,743	9.2	99,281,601
1961	84,502,071	86.2	3,957,156	4.0	881,060	.89	8,664,203	8.9	98,014,492
1962	82,957,318	84.8	5,552,897	5.2	804,964	.8	9,012,806	9.2	98,327,785
1963	88,833,925	81.3	8,544,078	7.8	962,659	.9	10,920,287	10.0	109,260,949
1964	98,097,499	77.2	15,442,186	12.2	857,586	0.6	12,678,496	10.0	127,075,767
1965	94,193,225	71.7	22,878,605	17.4	585,965	0.4	13,803,806	10.5	131,461,601
1966	85,024,572	63.4	33,928,374	25.4	278,119	0.2	14,870,363	11.0	134,101,428
1967	70,890,028	55.6	41,434,350	32.5	**	**	15,068,545	11.9	127,212,923
1968	65,836,000	50.1	48,812,000	37.2	**	**	16,814,000	12.7	131,462,000
1969	60,804,041	43.1	60,235,671	42.7	**	**	20,131,950	14.2	141,261,662
1970	49,022,000	38.6	63,330,000	48.2	**	**	20,162,000	15.2	131,514,000
1971	35,556,000	29.5	63,943,000	53.1	**	**	20,941,000	17.4	120,443,000
1972	34,936,000	26.2	74,584,000	56.0	**	**	23,721,000	17.8	133,241,000
1973	39,780,000	26.4	83,260,000	55.2	**	**	27,759,000	18.4	150,799,000
1974	35,499,000	24.3	81,552,000	56.0	**	**	28,669,000	19.7	145,720,000
1975	22,161,000	19.1	71,801,000	61.5	**	**	22,680,000	19.4	116,642,000
1976	23,470,000	18.3	79,918,000	62.4	**	**	24,612,000	19.3	128,000,000
1977	20,043,000	16.0	77,408,000	61.8	...	...	27,882,000	22.2	125,333,000
1978	21,310,000	15.5	83,484,000	61.0	...	...	32,287,000	23.5	137,031,000
1979	19,158,000	14.0	83,256,000	61.0	...	...	33,927,000	23.0	136,341,000
1980	13,054,000	11.7	67,615,000	60.4	...	...	31,166,000	27.9	111,835,000
1981	13,452,000	11.1	73,231,000	60.6	...	...	34,145,000	28.3	120,828,000
1982	6,110,000	8.2	45,309,000	60.7	...	...	23,158,000	31.1	74,577,000
1983	5,951,000	7.0	52,050,000	61.5	...	...	26,615,000	31.5	84,615,000
1984††	5,923,000	6.5	56,046,000	61.5	...	...	29,162,000	32.0	91,131,000

*Includes very small tonnages of crucible steel. ††IRON AGE estimate. Source: AISI
**Included in openhearth since 1966. †Steel in first solid state after melting suitable for further processing or sale, including ingots, steel castings and strand or pressure cast blooms, billets, slabs, or other product forms.

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U.S. Monthly Raw Steel† Production, Net Tons

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Jan.	9,317,385	12,049,404	6,416,004	10,352,748	8,390,914	9,526,000	11,830,469	10,577,000	10,633,000	12,014,599	11,083,447	11,242,855	11,273,740
Feb.	9,602,939	11,126,806	6,239,098	9,698,316	8,222,352	9,485,359	10,985,869	10,249,000	10,041,000	11,794,898	10,915,021	10,486,358	10,674,377
Mar.	11,567,745	11,564,683	7,086,389	10,583,943	10,080,014	10,496,987	12,346,983	12,083,000	10,963,000	12,721,053	12,400,575	11,885,581	12,045,241
Apr.	11,281,920	9,777,857	7,584,687	9,235,881	10,695,362	10,560,651	11,998,102	11,570,000	10,348,000	12,450,040	12,142,751	11,395,679	12,584,698
May	11,800,581	8,830,472	8,980,826	7,535,506	11,489,524	11,080,357	12,012,449	12,191,000	10,577,000	12,700,325	12,395,394	11,574,485	12,980,415
June	10,907,634	7,404,873	8,551,856	6,691,765	10,365,154	10,184,634	11,593,450	11,403,000	9,576,000	11,905,936	11,810,387	11,323,286	11,480,682
July	5,227,129	6,350,924	8,091,956	6,174,187	8,653,544	10,105,609	11,550,988	10,791,000	9,020,000	11,452,388	11,365,148	10,780,980	9,942,294
Aug.	1,439,277	6,836,000	8,660,527	7,097,916	7,781,580	10,515,268	11,324,149	11,097,000	10,300,000	8,955,712	11,420,995	10,794,738	5,773,738
Sept.	1,535,017	6,458,421	8,904,900	7,251,023	7,856,009	10,668,978	9,949,355	11,260,000	10,436,000	8,085,770	11,523,108	10,726,618	7,676,110
Oct.	1,704,533	6,868,380	9,173,170	7,780,536	8,483,160	11,568,248	9,295,826	11,509,000	11,171,000	9,006,237	12,323,544	10,998,730	8,211,093
Nov.	7,267,807	8,171,940	8,745,986	7,846,057	8,488,239	11,292,070	8,822,186	10,867,000	11,268,000	9,582,000	11,916,395	10,008,000	8,053,140
Dec.	11,969,319	5,839,841	9,568,954	8,079,885	8,753,117	11,611,806	9,627,158	10,435,000	11,853,000	10,421,000	11,812,097	10,438,000	8,783,809
Total	93,446,132	99,281,901	98,014,482	96,327,785	109,290,949	127,075,767	131,461,881	134,101,000	127,213,000	131,462,000	141,381,862	131,814,000	120,442,236

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Jan.	10,001,026	12,372,882	12,726,000	11,594,190	9,834,725	9,099,254	10,301,277	11,104,826	10,700,735	10,590,135	7,737,388	5,570,000	7,970,000
Feb.	9,979,752	11,625,734	11,598,000	10,861,863	9,906,523	8,858,898	9,843,242	10,582,363	10,331,869	10,029,344	7,177,979	5,676,000	8,142,000
Mar.	11,567,946	13,088,379	12,758,000	11,980,244	11,294,279	11,049,229	11,082,593	12,575,987	11,436,944	11,744,378	8,048,021	7,127,000	9,056,000
Apr.	11,587,706	12,788,829	12,442,000	10,667,492	11,439,185	11,166,557	11,538,357	12,195,812	10,656,202	11,242,726	7,005,717	7,592,000	8,997,000
May	11,936,558	13,174,066	12,752,000	9,863,557	12,136,009	12,200,852	12,320,398	12,788,573	9,225,991	11,422,988	6,676,457	7,412,000	9,174,000
June	10,979,970	12,487,658	12,185,000	8,743,842	11,604,508	11,383,812	11,860,523	12,229,980	7,500,772	10,461,394	6,050,082	6,993,000	7,945,000
July	10,341,230	12,290,250	12,155,000	8,370,426	11,399,953	10,319,277	11,387,871	11,821,340	6,795,738	10,159,544	5,718,617	6,921,000	7,480,000
Aug.	10,842,279	12,181,330	11,837,000	8,648,260	11,128,102	10,392,460	11,549,515	11,309,493	7,018,547	10,120,254	5,537,970	7,020,000	6,915,000
Sept.	10,912,540	12,229,008	11,849,000	9,295,321	10,462,577	10,050,311	11,467,224	10,541,320	7,766,905	9,618,072	5,298,622	7,134,000	6,376,000
Oct.	11,656,841	12,875,791	12,617,045	9,213,736	10,278,000	10,442,000	12,105,000	10,809,986	8,442,103	9,002,756	5,262,370	7,892,000	7,043,000*
Nov.	11,398,316	12,586,509	11,614,000	8,709,090	9,494,000	9,748,000	11,654,000	9,997,000	10,057,000	7,952,000	4,546,000	7,263,000	6,507,000*
Dec.	11,878,199	12,721,577	10,980,000	8,845,511	9,215,000	10,031,000	11,812,000	9,998,000	10,180,000	7,671,000	4,456,000	6,991,000	5,543,000*
Total	133,241,165	150,786,927	145,720,000	116,783,332	128,000,000	125,333,000	137,031,000	138,341,000	111,835,000	128,828,000	74,577,000	84,618,000	91,131,000*

*Estimate
†Steel in first solid state after melting suitable for further processing or sale, including ingots, steel castings and continuous or pressure cast blooms, billets, slabs, or other product forms.
Source: AISI

U.S. Raw Steel Production, Rate of Capability Utilization

	1966†	1967	1968	1969	1970	1971	1972	1973	1974	1975††	1976	1977	1978	1979	1980	1981	1982	1983	1984
Jan.	97.9	98.4	111.2	102.6	104.1	104.3	92.6	114.5	117.8	90.4	74.4	66.8	77.2	83.5	82.7	79.9	59.3	43.4	69.6
Feb.	105.0	102.9	116.7	111.6	107.5	111.4	98.7	119.1	118.8	93.8	80.1	72.1	83.1	87.9	85.3	83.7	60.9	49.0	78.0
Mar.	111.8	101.5	117.7	114.6	110.0	117.0	107.3	121.1	118.1	93.4	85.4	81.2	83.1	96.8	88.4	88.8	61.7	55.5	78.1
Apr.	110.6	99.0	119.1	116.1	108.9	120.2	110.8	122.3	119.0	84.9	88.4	83.3	86.5	93.4	83.0	87.7	55.2	58.9	80.8
May	112.8	97.9	117.5	114.4	107.1	119.6	110.5	121.9	118.0	75.9	90.8	68.1	91.5	94.8	69.8	88.2	50.9	57.9	76.6
June	109.1	91.6	113.9	113.0	108.3	108.9	105.0	119.4	116.5	69.6	89.7	84.9	91.1	93.7	56.4	81.5	47.7	56.5	71.4
July	99.9	89.0	106.0	105.2	99.8	92.0	95.7	113.8	112.5	65.1	84.8	76.7	85.1	89.2	53.1	77.8	43.8	54.3	65.3
Aug.	102.7	95.3	82.9	105.7	99.6	53.4	100.4	112.7	109.6	67.3	82.8	77.2	86.3	85.0	54.8	77.3	42.4	55.1	60.5
Sept.	107.9	99.8	77.3	110.2	102.6	73.4	104.4	117.9	113.3	74.7	80.4	77.2	88.6	82.8	62.7	75.9	41.9	57.8	57.7
Oct.	106.5	103.4	83.4	114.1	99.0	76.0	107.9	119.2	116.8	69.0	75.8	77.7	88.1	84.4	72.2	68.7	40.2	60.2	49.7*
Nov.	104.1	108.1	91.7	114.0	95.7	77.0	106.0	120.4	111.1	67.4	72.2	75.0	89.4	80.6	79.5	62.8	35.9	58.7	48.4*
Dec.	98.6	110.6	98.5	109.3	96.6	81.3	106.9	117.7	101.4	66.2	67.8	74.7	87.7	78.6	77.8	62.6	34.8	54.7	45.1*
Average	105.6	100.9	103.1	111.0	103.4	94.7	104.5	118.5	114.5	76.2	80.9	76.4	86.8	87.8	72.8	78.3	48.4	56.2	65.3*

*Estimate. †Production Index 1967 = 100; revised back to 1966 in Jan. 1971.
††Rate of Capability Utilization, begun January, 1976, revised back to January, 1975.
Source: AISI

STEEL PRICES

Composite Prices by Periods

Period	Cents per Pound
April 17, 1978 to July 31, 1978	17.670
July 31, 1978 to Dec. 31, 1978	18.719
Jan. 1, 1979 to April 1, 1979	19.549
April 1, 1979 to May 13, 1979	19.606
May 13, 1979 to July 1, 1979	19.668
July 1, 1979 to July 9, 1979	20.095
July 9, 1979 to Oct. 1, 1979	20.311
Oct. 1, 1979 to Jan. 6, 1980	20.547
Jan. 7, 1980 to Mar. 1, 1980	21.038
Mar. 2, 1980 to Mar. 9, 1980	21.130
Mar. 10, 1980 to Mar. 31, 1980	21.180
April 1, 1980 to July 6, 1980	21.739
July 7, 1980 to Oct. 4, 1980	21.736
Oct. 5, 1980 to Nov. 30, 1980	22.019
Dec. 1, 1980 to Dec. 31, 1980	22.286
Jan. 1, 1981 to Feb. 1, 1981	22.901
Feb. 2, 1981 to Feb. 28, 1981	23.362
Mar. 1, 1981 to Mar. 28, 1981	23.598
Mar. 29, 1981 to June 20, 1981	23.776
June 21, 1981 to Sept. 26, 1981	24.488
Sept. 27, 1981 to April 3, 1982	25.195
April 4, 1982 to Feb. 5, 1983	25.297
Feb. 6, 1983 to Feb. 13, 1983	25.954
Feb 14, 1983 to Aug. 31, 1983	26.217
Sept. 1, 1983 to Feb. 12, 1984	26.822
Feb. 13, 1984 to May 13, 1984	26.929
May 14, 1984 to July 15, 1984	27.405
July 16, 1984 to Dec. 31, 1984	27.582

The Iron Age Finished Steel Composite Price

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
January	6.368	6.368	6.445	6.545	6.794	7.283	7.838	9.014	9.388	9.458
February	6.368	6.368	6.448	6.545	6.904	7.351	7.838	8.998	9.388	9.460
March	6.368	6.368	6.448	6.545	6.961	7.434	8.012	8.998	9.388	9.460
April	6.368	6.383	6.448	6.545	6.961	7.504	8.055	8.998	9.388	10.033
May	6.368	6.383	6.448	6.545	7.042	7.580	8.055	8.998	9.388	10.033
June	6.368	6.376	6.448	6.545	7.042	7.813	8.234	8.998	9.388	11.168
July	6.368	6.376	6.448	6.545	7.125	7.813	8.480	8.998	9.388	12.075
August	6.368	6.376	6.448	6.767	7.252	7.813	8.728	8.998	9.388	12.346
September	6.368	6.433	6.486	6.767	7.252	7.813	8.977	8.998	9.388	12.388
October	6.368	6.445	6.486	6.767	7.252	7.813	8.977	8.998	9.432	12.433
November	6.368	6.445	6.486	6.930	7.252	7.813	8.977	8.998	9.432	12.433
December	6.368	6.445	6.510	6.930	7.253	7.813	8.977	8.998	9.432	12.433
Average	6.368	6.399	6.464	6.800	7.091	7.650	8.429	8.998	9.398	11.141

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
January	12.739	13.893	15.146	16.294	19.549	20.963	22.901	25.195	25.297	26.822
February	12.928	13.893	15.146	17.324	19.549	21.038	23.362	25.195	25.973	26.929
March	12.928	13.893	15.146	17.390	19.549	21.180	23.598	25.195	25.954	26.999
April	12.928	13.893	15.146	17.670	19.606	21.739	23.776	25.297	25.954	26.929
May	12.928	13.836	15.146	17.670	19.637	21.739	23.776	25.297	25.954	27.405
June	12.920	14.196	15.146	17.670	19.668	21.739	24.232	25.297	25.954	27.405
July	12.912	14.502	15.941	17.670	20.253	21.739	24.488	25.297	25.954	27.405
August	12.912	14.588	15.941	18.719	20.311	21.739	24.488	25.297	25.954	27.582
September	12.961	14.588	16.043	18.719	20.311	21.739	24.488	25.297	26.822	27.582
October	13.692	14.588	16.043	18.719	20.547	21.982	25.195	25.297	26.822	27.582
November	13.693	14.588	16.043	18.719	20.547	22.019	25.195	25.297	26.822	27.582
December	13.693	14.880	16.043	18.719	20.547	22.286	25.195	25.297	26.822	27.582
Average	13.192	14.213	15.577	17.940	20.086	21.855	24.294	25.271	26.188	27.213

Galvanized Sheets†

At Pittsburgh, Cents Per Pound

	1973	1974	1975	1976	1977	1978
Jan.	10.525	10.80	14.05	15.40	17.40	18.60
Feb.	10.525	10.80	14.05	15.40	17.40	19.80
Mar.	10.525	10.80	14.05	15.40	17.40	19.80
Apr.	10.525	10.80	14.05	15.40	17.40	19.80
May	10.525	12.15	14.05	15.40	17.40	20.075
June	10.525	12.15	14.05	16.40	17.40	20.075
July	10.525	14.05	14.05	16.40	18.60	20.075
Aug.	10.525	14.05	14.05	16.40	18.60	20.80
Sept.	10.525	14.05	14.05	16.40	18.60	20.80
Oct.	10.80	14.05	15.40	16.40	18.60	20.80
Nov.	10.80	14.05	15.40	16.40	18.60	20.80
Dec.	10.80	14.05	15.40	17.40	18.60	20.80
Average	10.59	12.65	14.39	16.07	18.00	20.18

	1979	1980	1981	1982	1983	1984
Jan.	21.95	22.85	25.25	26.25	26.25	30.30
Feb.	21.95	22.85	25.25	26.25	28.00	30.30
Mar.	21.95	22.85	25.25	26.25	28.00	30.30
Apr.	21.95	23.80	25.25	26.25	28.00	30.30
May	21.95	23.80	25.75	26.25	28.00	30.30
June	21.95	23.80	26.00	26.25	28.00	30.30
July	21.95	23.80	27.15	26.25	28.00	30.30
Aug.	22.85	23.80	27.15	26.25	28.00	30.30
Sept.	22.85	23.80	27.15	26.25	30.30	30.30
Oct.	22.85	23.80	27.15	26.25	30.30	30.30
Nov.	22.85	23.80	27.15	26.25	30.30	30.30
Dec.	22.85	23.80	27.15	26.25	30.30	30.30
Average	22.32	23.56	26.30	26.25	28.62	30.30

†Hot-Dipped, 10 ga.

Structural Steel Shapes

At Pittsburgh, Cents Per Pound

	1979	1980	1981	1982	1983	1984
Jan.	17.00	18.00	19.90	22.90	23.90	23.90
Feb.	17.00	18.00	19.90	22.90	23.90	23.90
Mar.	17.00	18.90	19.90	22.90	23.90	23.90
Apr.	17.00	18.90	21.65	23.90	23.90	23.90
May	17.15	18.90	21.65	23.90	23.90	23.90
June	17.30	18.90	21.65	23.90	23.90	23.90
July	17.30	18.90	21.65	23.90	23.90	23.90
Aug.	17.30	18.90	21.65	23.90	23.90	23.90
Sept.	17.30	18.90	21.65	23.90	23.90	23.90
Oct.	18.00	18.90	22.90	23.90	23.90	23.90
Nov.	18.00	18.90	22.90	23.90	23.90	23.90
Dec.	18.00	18.90	22.90	23.90	23.90	23.90
Average	17.36	19.00	21.52	23.65	23.90	23.90

Special Quality Bars

At Pittsburgh, Cents Per Pound

	1979	1980	1981	1982	1983	1984
Jan.	19.10	21.00	22.80	23.95	23.95	25.80
Feb.	19.10	21.00	22.80	23.95	25.80	25.80
Mar.	19.10	21.00	22.80	23.95	25.80	25.80
Apr.	19.10	21.00	22.80	23.95	25.80	25.80
May	19.10	21.00	22.80	23.95	25.80	25.80
June	19.10	21.00	23.95	23.95	25.80	25.80
July	19.10	21.00	23.95	23.95	25.80	27.05
Aug.	19.85	21.00	23.95	23.95	25.80	27.05
Sept.	19.85	21.00	23.95	23.95	25.80	27.05
Oct.	19.85	21.00	23.95	23.95	25.80	27.05
Nov.	19.85	22.80	23.95	23.95	25.80	27.05
Dec.	19.85	22.80	23.95	23.95	25.80	27.05
Average	19.41	21.30	23.29	23.95	25.65	26.43

Steel Plates

At Pittsburgh, Cents Per Pound

	1979	1980	1981	1982	1983	1984
Jan.	17.85	19.45	21.50	24.25	24.25	25.75
Feb.	17.85	19.45	21.50	24.25	25.75	25.75
Mar.	17.85	19.45	23.25	24.25	25.75	25.75
Apr.	17.85	20.70	23.25	24.25	25.75	25.75
May	18.17	20.70	23.25	24.25	25.75	25.75
June	18.50	20.70	23.25	24.25	25.75	25.75
July	18.50	20.70	23.25	24.25	25.75	25.75
Aug.	18.50	20.70	23.25	24.25	25.75	25.75
Sept.	18.50	20.70	23.25	24.25	25.75	25.75
Oct.	19.45	21.50	24.25	24.25	25.75	25.75
Nov.	19.45	21.50	24.25	24.25	25.75	25.75
Dec.	19.45	21.50	24.25	24.25	25.75	25.75
Average	18.49	20.62	23.20	24.25	25.63	25.75

Hot-Rolled Sheets

At Pittsburgh, Cents Per Pound

	1973	1974	1975	1976	1977	1978
Jan.	8.35	8.55	11.00	11.70	13.25	14.175
Feb.	8.35	8.55	11.00	11.70	13.25	14.175
Mar.	8.35	8.55	11.00	11.70	13.25	14.175
Apr.	8.35	8.55	11.00	11.70	13.25	14.175
May	8.35	9.55	11.00	11.70	13.25	15.275
June	8.35	9.55	11.00	11.70	13.25	15.275
July	8.35	11.00	11.00	12.45	14.175	15.275
Aug.	8.35	11.00	11.00	12.45	14.175	15.80
Sept.	8.35	11.00	11.00	12.45	14.175	15.80
Oct.	8.55	11.00	11.70	12.45	14.175	15.80
Nov.	8.55	11.00	11.70	12.45	14.175	15.80
Dec.	8.55	11.00	11.70	13.25	14.175	15.80
Average	8.40	9.94	11.17	12.14	13.712	15.12

	1979	1980	1981	1982	1983	1984
Jan.	16.60	17.50	19.50	20.80	20.80	23.75
Feb.	16.60	17.50	19.50	20.80	22.05	23.75
Mar.	16.60	17.50	19.50	20.80	22.05	23.75
Apr.	16.60	18.45	19.50	20.80	22.05	23.75
May	16.60	18.45	19.50	20.80	22.05	23.75
June	16.60	18.45	20.15	20.80	22.05	23.75
July	16.60	18.45	20.80	20.80	22.05	23.75
Aug.	17.50	18.45	20.80	20.80	22.05	23.75
Sept.	17.50	18.45	20.80	20.80	23.75	23.75
Oct.	17.50	18.45	20.80	20.80	23.75	23.75
Nov.	17.50	18.45	20.80	20.80	23.75	23.75
Dec.	17.50	18.45	20.80	20.80	22.75	23.75
Average	16.97	18.21	20.20	20.80	22.51	23.75

Hot-Rolled Strip

At Pittsburgh, Cents Per Pound

	1973	1974	1975	1976	1977	1978
Jan.	8.15	8.375	11.00	11.70	13.25	14.175
Feb.	8.15	8.375	11.00	11.70	13.25	14.175
Mar.	8.15	8.375	11.00	11.70	13.25	14.175
Apr.	8.15	8.375	11.00	11.70	13.25	14.175
May	8.15	9.50	11.00	11.70	13.25	15.275
June	8.15	9.50	11.00	11.70	13.25	15.275
July	8.15	11.00	11.00	12.45	14.175	15.275
Aug.	8.15	11.00	11.00	12.45	14.175	15.80
Sept.	8.15	11.00	11.00	12.45	14.175	15.80
Oct.	8.375	11.00	11.70	12.45	14.175	15.80
Nov.	8.375	11.00	11.70	12.45	14.175	15.80
Dec.	8.375	11.00	11.70	13.25	14.175	15.80
Average	8.206	9.875	11.17	12.15	13.70	14.79

	1979	1980	1981	1982	1983	1984
Jan.	16.60	17.50	19.50	20.80	20.80	23.75
Feb.	16.60	17.50	19.50	20.80	22.05	23.75
Mar.	16.60	17.50	19.50	20.80	22.05	23.75
Apr.	16.60	18.45	19.50	20.80	22.05	23.75
May	16.60	18.45	19.50	20.80	22.05	23.75
June	16.60	18.45	20.15	20.80	22.05	23.75
July	16.60	18.45	20.80	20.80	22.05	23.75
Aug.	17.50	18.45	20.80	20.80	22.05	23.75
Sept.	17.50	18.45	20.80	20.80	23.75	23.75
Oct.	17.50	18.45	20.80	20.80	23.75	23.75
Nov.	17.50	18.45	20.80	20.80	23.75	23.75
Dec.	17.50	18.45	20.80	20.80	22.75	23.75
Average	16.97	18.21	20.20	20.80	22.51	23.75

Cold-Rolled Sheets

At Pittsburgh, Cents Per Pound

	1973	1974	1975	1976	1977	1978
Jan.	10.075	10.30	13.00	13.90	15.80	16.90
Feb.	10.075	10.30	13.00	13.90	15.80	16.90
Mar.	10.075	10.30	13.00	13.90	15.80	16.90
Apr.	10.075	10.30	13.00	13.90	15.80	16.90
May	10.075	11.30	13.00	13.90	15.80	18.175
June	10.075	11.30	13.00	13.90	15.80	18.175
July	10.075	13.00	13.00	14.80	16.90	18.175
Aug.	10.075	13.00	13.00	14.80	16.90	18.80
Sept.	10.075	13.00	13.00	14.80	16.90	18.80
Oct.	10.30	13.00	13.90	14.80	16.90	18.80
Nov.	10.30	13.00	13.90	14.80	16.90	18.80
Dec.	10.30	13.00	13.90	15.80	16.90	18.80
Average	10.13	11.80	13.23	14.43	16.35	17.17

	1979	1980	1981	1982	1983	1984
Jan.	19.75	20.75	23.15	24.65	24.65	28.15
Feb.	19.75	20.75	23.15	24.65	26.15	28.15
Mar.	19.75	20.75	23.15	24.65	26.15	28.15
Apr.	19.75	21.90	23.15	24.65	26.15	28.15
May	19.75	21.90	23.15	24.65	26.15	28.15
June	19.75	21.90	23.90	24.65	26.15	28.15
July	19.75	21.90	24.65	24.65	26.15	28.15
Aug.	20.75	21.90	24.65	24.65	26.15	28.15
Sept.	20.75	21.90	24.65	24.65	28.15	28.15
Oct.	20.75	21.90	24.65	24.65	28.15	28.15
Nov.	20.75	21.90	24.65	24.65	28.15	28.15
Dec.	20.75	21.90	24.65	24.65	28.15	28.15
Average	20.16	21.62	23.96	24.65	26.69	28.15

Tinplate

Single Reduced, 70 lb.
Dollars Per Base Box, Pittsburgh

	1973	1974	1975	1976	1977	1978
Jan.	$9.35	$ 9.75	$13.70	$13.70	$15.10	$17.05
Feb.	9.35	9.75	13.70	13.70	15.10	17.05
Mar.	9.75	10.15	13.70	15.10	15.75	17.80
Apr.	9.75	10.15	13.70	15.10	15.75	17.80
May	9.75	10.15	13.70	15.10	15.75	18.00
June	9.75	11.30	13.70	15.10	15.75	18.00
July	9.75	11.30	13.70	15.10	15.75	18.00
Aug.	9.75	11.30	13.70	15.10	15.75	18.00
Sept.	9.75	11.30	13.70	15.10	17.05	18.00
Oct.	9.75	11.30	13.70	15.10	17.05	19.10
Nov.	9.75	13.45	13.70	15.10	17.05	19.10
Dec.	9.75	13.45	13.70	15.10	17.05	19.10
Average	9.68	11.11	13.70	14.86	16.07	18.08

	1979	1980	1981	1982	1983	1984
Jan.	$19.01	$21.93	$24.94	$26.29	$26.29	$27.74
Feb.	19.27	21.93	24.94	26.29	26.29	27.74
Mar.	19.27	21.93	24.94	26.29	26.29	27.74
Apr.	20.57	23.31	24.94	26.29	26.29	27.74
May	20.57	23.31	24.94	26.29	26.29	27.74
June	20.57	23.31	24.94	26.29	26.29	27.74
July	20.57	23.31	24.94	26.29	26.29	27.74
Aug.	20.57	21.31	24.94	26.29	26.29	27.74
Sept.	20.57	21.31	24.94	26.29	27.74	27.74
Oct.	21.93	21.31	24.94	26.29	27.74	27.74
Nov.	21.93	21.31	24.94	26.29	27.74	27.74
Dec.	21.93	21.31	24.94	26.29	27.74	27.74
Average	20.57	22.89	24.94	26.29	26.77	27.74

IRON ORE

Pig Iron, Production

Net Tons

Year	Basic	Bessemer	Low Phosphorous	Foundry	Malleable	All Other, incl. Direct Castings Silvery Pig Iron	Pig Iron
1973	96,202,000	1,242,000	101,000	1,581,000	1,352,000	359,000	100,837,000
1974	91,193,000	1,100,000	106,000	1,528,000	1,382,000	600,000	95,909,000
1975	75,911,000	1,087,000	140,000	1,321,000	814,000	650,000	79,923,000
1976	82,894,000	1,150,000	112,000	1,489,000	800,000	425,000	86,964,000
1977	78,198,000	254,000	122,000	1,610,000	690,000	454,000	81,328,000
1978	84,497,000	295,000	110,000	1,856,000	471,000	450,000	87,679,000
1979	84,047,000	12,000	178,000	1,457,000	1,003,000	306,000	87,003,000
1980	66,964,000	39,000	72,000	713,000	799,000	134,000	68,721,000
1981	71,166,000	56,000	132,000	1,221,000	929,000	66,000	73,750,000
1982	42,604,000	—	56,000	239,000	377,000	33,000	43,309,000
1983	48,132,000	—	27,000	130,000	417,000	—	48,706,000
1984*	53,566,000	—	30,000	144,000	464,000	—	54,204,000

*Iron Age estimate.

Source: AISI

U.S. Iron Ore Supply

Year	Domestic Shipments	Exports	Imports	Net Supply*
1975	75,682,787***	2,323,235	46,742,190	119,887,526
1976	76,726,254***	2,913,309	44,389,538	118,202,483
1977	54,315,852***	2,143,047	27,904,705	90,077,510
1978	82,611,422***	4,213,194	33,616,378	112,014,606
1979	86,052,903***	5,147,657	33,776,072	114,681,318
1980	68,527,008***	5,689,198	25,058,200	87,896,010
1981	71,369,926	5,545,518	28,333,974	94,158,382
1982	35,864,871	3,177,620	14,715,345	47,402,596
1983	45,033,892	3,781,244	13,327,905	54,580,553
1984**	50,888,000	3,500,000	14,100,000	62,488,000

*Domestic shipments minus exports, plus imports. **Estimate

***Includes by-product ore

Source: American Iron Ore Assn

SCRAP COMPOSITES

Average of Iron Age Scrap Prices Pittsburgh, Chicago, Philadelphia, Per Gross Ton

No. 1 Heavy Melt

	1979	1980	1981	1982	1983	1984
Jan	$ 97.56	$ 99.67	$ 98.58	$84.34	$81.30	$93.56
Feb	110.75	105.00	99.50	82.17	70.00	94.91
Mar	119.75	101.17	105.23	76.83	73.09	91.25
Apr	99.56	92.25	101.75	71.33	71.00	90.16
May	97.75	77.50	95.42	62.67	67.70	89.08
June	100.83	69.70	89.37	58.03	70.94	85.16
July	96.10	76.08	90.17	56.00	71.75	82.03
Aug	90.33	84.42	94.63	55.69	75.04	82.25
Sept	88.08	94.43	90.42	56.17	77.17	85.00
Oct	87.30	95.91	81.17	52.92	77.97	82.90
Nov	92.50	98.50	75.63	51.23	81.42	80.25*
Dec	94.10	101.57	76.42	52.59	87.25	81.03*
Average	97.91	91.35	91.53	63.35	73.71	86.46*

No. 2 Bundles

	1979	1980	1981	1982	1983	1984
Jan	$61.56	$62.50	$71.83	$56.50	$42.84	$59.96
Feb	68.17	67.41	71.83	56.17	48.84	62.50
Mar	73.25	65.90	73.83	51.23	51.84	62.41
Apr	63.43	60.83	75.08	47.58	48.94	61.03
May	65.75	53.83	68.08	44.83	46.57	60.16
June	67.50	50.70	61.57	42.83	46.34	56.50
July	62.76	54.00	61.58	41.83	45.75	51.10
Aug	58.58	62.66	62.50	41.83	45.50	51.16
Sept	57.41	67.90	61.66	41.47	45.50	51.83
Oct	56.76	70.91	56.50	39.42	46.57	51.16
Nov	58.58	72.75	53.43	38.70	49.34	50.50*
Dec	61.03	75.23	53.75	38.75	56.91	50.73*
Average	62.89	63.71	64.71	45.07	48.15	55.75*

*Estimate

Chicago

Prices of No. 1 Heavy Melt, Per Gross Ton

	1979	1980	1981	1982	1983	1984
Jan	$ 98.30	$ 96.50	$ 95.50	$83.25	$62.70	$92.10
Feb	109.75	100.50	101.25	79.50	74.25	90.56
Mar	121.25	96.50	108.10	71.70	77.50	87.50
Apr	99.30	86.00	104.50	67.00	72.50	85.50
May	99.75	70.50	96.75	58.50	68.30	85.50
June	104.00	63.50	88.50	52.30	71.50	80.50
July	96.90	67.50	88.50	49.50	72.25	77.50
Aug	88.25	77.50	97.50	50.70	76.90	78.50
Sept	86.50	88.50	91.25	51.50	79.50	81.50
Oct	87.30	93.75	81.00	46.50	79.50	80.90
Nov	94.50	98.75	75.50	46.50	80.75	84.75*
Dec	93.90	105.10	75.50	49.50	84.75	83.60*
Average	98.30	87.05	91.99	58.87	75.03	84.02

No. 2 Bundles

	1979	1980	1981	1982	1983	1984
Jan	$64.50	$54.50	$77.00	$65.50	$44.90	$60.70
Feb	67.50	58.50	80.25	62.50	50.75	64.00
Mar	68.75	57.50	83.70	56.50	54.50	64.50
Apr	59.90	53.25	83.25	52.50	49.50	64.50
May	63.00	49.50	73.25	47.50	44.50	64.50
June	61.50	48.30	64.50	43.90	44.50	59.50
July	53.50	51.50	65.75	41.50	44.50	49.50
Aug	49.50	61.50	68.70	41.50	44.50	49.50
Sept	50.25	72.10	69.00	41.50	44.50	51.50
Oct	52.50	81.75	60.50	38.50	44.50	51.50
Nov	56.50	87.50	60.50	38.50	45.75	53.00*
Dec	57.30	86.50	63.25	39.25	56.25	53.40*
Average	58.72	63.24	70.81	47.43	47.38	57.17

*Estimate

Pittsburgh

Prices of No. 1 Heavy Melt, Per Gross Ton

	1979	1980	1981	1982	1983	1984
Jan	$ 93.30	$102.00	$104.50	$94.50	$63.90	$ 98.30
Feb	111.75	106.50	105.75	91.50	73.25	103.25
Mar	127.75	105.50	116.10	85.90	78.25	100.50
Apr	102.90	98.00	110.75	75.50	75.50	100.50
May	102.75	79.50	105.10	64.50	69.10	99.75
June	105.50	69.50	100.00	61.50	72.50	94.50
July	99.90	77.75	102.50	59.00	74.50	88.10
Aug	93.50	87.50	107.10	57.50	79.70	87.25
Sept	89.25	102.90	101.50	57.50	82.50	92.00
Oct	87.30	102.50	93.00	55.25	82.90	87.70
Nov	94.50	105.25	84.90	52.50	85.50	81.50*
Dec	95.70	103.10	87.25	53.75	92.00	83.40*
Average	100.34	95.00	101.54	67.41	77.46	93.06

No. 2 Bundles

	1979	1980	1981	1982	1983	1984
Jan	$60.10	$61.00	$74.50	$60.50	$43.10	$59.50
Feb	70.50	67.50	74.50	62.50	50.75	59.50
Mar	78.75	68.70	77.30	53.70	54.50	59.50
Apr	67.70	64.50	81.50	48.75	51.50	59.50
May	69.75	58.75	73.50	46.50	51.50	59.50
June	74.50	52.70	65.70	44.50	51.50	59.50
July	68.30	54.50	64.50	44.50	51.50	54.30
Aug	64.75	63.50	64.50	44.50	51.50	53.50
Sept	62.75	66.50	64.50	42.50	51.50	53.50
Oct	59.30	66.50	63.00	40.25	51.50	53.10
Nov	59.25	69.75	60.50	38.10	52.75	52.50*
Dec	59.50	73.90	60.50	37.50	59.50	53.30*
Average	66.26	63.98	68.71	46.98	51.75	56.43

*Estimate

Philadelphia

Prices of No. 1 Heavy Melt, Per Gross Ton

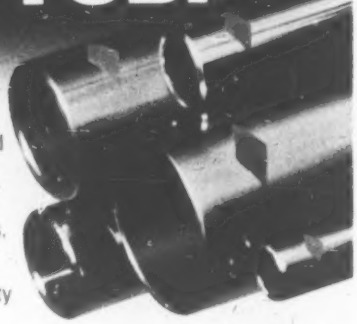
	1979	1980	1981	1982	1983	1984
Jan	$101.10	$100.50	$95.75	$75.25	$57.50	90.30
Feb	110.75	108.00	91.50	75.50	62.50	91.00
Mar	110.25	101.50	91.50	72.90	63.50	85.75
Apr	97.70	92.75	90.00	71.50	65.00	84.50
May	90.75	82.50	84.50	65.00	65.70	82.00
June	93.08	76.10	79.50	60.30	68.50	80.50
July	91.50	83.00	79.50	59.50	68.50	80.50
Aug	89.25	88.25	79.30	59.50	68.50	81.00
Sept	88.50	91.90	78.50	59.50	69.50	81.50
Oct	87.30	91.50	69.50	57.00	71.50	80.10
Nov	88.50	91.50	66.50	54.70	78.00	74.50*
Dec	92.70	96.50	66.50	54.50	85.00	76.10*
Average	95.10	92.00	81.05	63.76	68.64	82.31

No. 2 Bundles

	1979	1980	1981	1982	1983	1984
Jan	$60.10	$72.00	$64.00	$43.50	$40.50	$59.70
Feb	66.50	76.25	60.75	43.50	45.00	64.00
Mar	72.25	71.50	60.50	43.50	46.50	63.25
Apr	62.70	64.75	60.50	41.50	45.50	59.10
May	64.50	53.25	57.50	40.50	43.70	58.50
June	66.50	51.50	54.50	40.10	43.00	50.50
July	66.50	56.00	54.50	39.50	41.25	49.50
Aug	61.50	63.00	54.30	39.50	40.50	50.50
Sept	59.25	65.10	51.50	39.50	40.50	50.50
Oct	58.50	64.50	46.00	39.50	43.70	48.90
Nov	60.00	64.50	39.30	39.50	49.50	46.00*
Dec	66.30	63.50	37.50	39.80	55.00	45.50*
Average	63.71	63.93	53.41	40.80	44.55	53.66

*Estimate

HYDRAULIC & DOM TUBING



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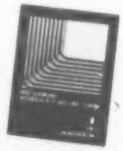

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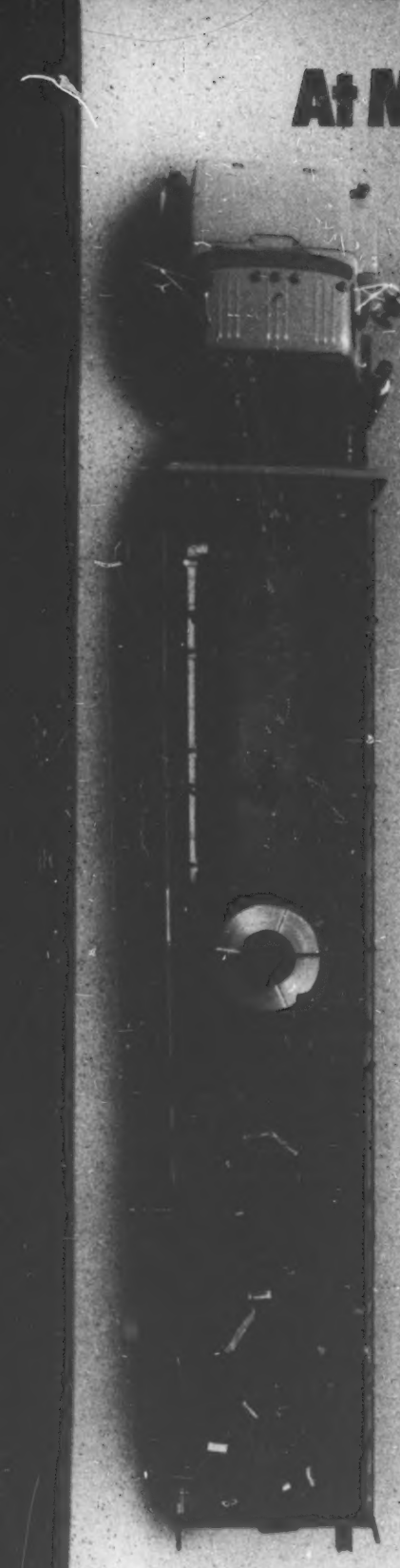

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Steel Service Center Institute
Taking a bite out of manufacturing costs

Steel Service Center Institute, 1600 Terminal Tower, Cleveland, Ohio 44113

NONFERROUS PRICES AND PRODUCTION

U.S. Production of Primary Aluminum

Short tons

	1981	1982	1983	1984
Jan.	444,826	350,348	279,299	277,409
Feb.	404,225	310,405	245,601	357,391
Mar.	447,655	336,276	273,086	385,496
Apr.	431,189	318,619	270,450	382,946
May	441,356	320,897	291,751	402,479
June	419,602	299,914	288,209	386,850
July	425,115	296,986	312,991	384,912
Aug.	416,140	287,077	327,051	378,747
Sept.	393,012	271,147	329,625	362,805
Oct.	395,565	275,277	352,733	373,009
Nov.	364,375	266,366	349,945	350,000*
Dec.	364,164	275,120	375,574	355,000*
Total	4,947,925	3,608,632	3,696,315	4,497,044*

Source: Aluminum Association *IA Estimate.

U.S. Production of Refined Copper

Short tons

	1980	1981	1982	1983	1984
Jan.	161,000	133,500	117,500	97,300	98,800
Feb.	149,500	116,300	123,400	100,600	110,700
Mar.	162,300	152,200	121,500	131,900	117,100
Apr.	170,400	155,800	116,400	125,500	120,500
May	158,700	135,000	107,500	112,200	127,900
June	167,200	158,300	108,600	114,500	125,600
July	52,400	131,700	81,800	73,100	123,000
Aug.	28,700	124,000	77,600	90,600	118,500
Sept.	27,300	140,500	80,600	91,200	101,900
Oct.	61,000	127,300	80,100	110,400	112,000*
Nov.	85,800	124,900	92,100	89,100	100,500*
Dec.	136,900	147,900	90,800	100,200	115,000*
Total	1,361,200	1,647,400	1,197,900*	1,236,600	1,362,00*
Average	113,433	137,283	99,825*	103,050	113,500*

Source: ABMS *IA Estimate.

U.S. Production of Slab Zinc

Short tons

	1980	1981	1982	1983	1984
Jan.	30,511	33,445	26,706	20,010	25,526
Feb.	30,613	31,457	23,845	22,766	24,346
Mar.	34,777	34,450	23,639	24,994	23,885
Apr.	32,123	34,051	21,314	24,709	28,421
May	31,922	32,218	23,856	25,858	27,252
June	28,452	30,828	23,713	23,990	30,072
July	20,774	33,018	20,570	17,645	26,961
Aug.	26,703	33,534	22,433	25,601	26,033
Sept.	26,613	29,424	26,549	25,064	25,400
Oct.	30,990	29,778	27,348	26,532	25,410
Nov.	29,884	29,276	20,608*	27,275	26,000*
Dec.	33,247	25,301	19,945*	24,086	24,000*
Total	358,609	376,780	280,326*	288,530	313,286*
Average	29,885	31,398	23,361*	24,044	26,107*

Source: ABMS *IA Estimate.

U.S. Production of Refined Lead

Short tons

	1980	1981	1982	1983	1984
Jan.	56,879	57,984	50,527	57,029	51,497
Feb.	49,324	53,569	45,193	50,943	51,374
Mar.	54,058	58,170	43,994	52,825	43,046
Apr.	47,493	52,741	36,111	49,938	39,983
May	47,044	35,038	54,323	47,230	39,231
June	47,142	24,378	52,974	42,045	26,161
July	52,037	33,027	44,224	39,525	28,401
Aug.	48,173	45,097	46,362	45,283	29,064
Sept.	50,158	43,704	49,201	41,226	25,287
Oct.	52,156	46,082	50,574	49,972	40,784
Nov.	48,438	39,412	77,????	50,886	42,100*
Dec.	53,456	44,036	48,585	46,381	41,400*
Total	606,358	533,238	572,614	572,283	458,308*
Average	50,530	44,437	47,718*	47,668	38,192*

Source: ABMS *IA Estimate.

Aluminum 99.5 Pct Ingot

Cents Per Pound, Freight Allowed

	1973	1974	1975	1976	1977	1978
Jan.	25.00	29.00	39.00	41.00	48.00	53.00
Feb.	25.00	29.00	39.00	41.00	48.00	53.00
Mar.	25.00	29.24	39.00	41.00	48.00	53.00
Apr.	25.00	31.50	39.00	41.75	51.00	53.00
May	25.00	31.50	39.00	44.00	51.00	55.25
June	25.00	33.40	39.00	44.00	51.00	55.25
July	25.00	33.50	39.00	44.00	53.00	55.25
Aug.	25.00	35.94	41.00	47.00	53.00	55.25
Sept.	25.00	38.70	41.00	48.00	53.00	55.25
Oct.	25.00	39.00	41.00	48.00	53.00	55.25
Nov.	25.00	39.00	41.00	48.00	53.00	55.25
Dec.	27.00	39.00	41.00	48.00	53.00	55.25
Average	25.17	34.00	39.83	44.65	51.25	54.50

	1979	1980	1981	1982	1983	1984†
Jan.	55.25	66.25	76.00	76.00	76.00	81.00
Feb.	58.00	66.25	76.00	76.00	76.00	81.00
Mar.	58.00	66.25	76.00	76.00	76.00	81.00
Apr.	59.50	72.00	76.00	76.00	76.00	81.00
May	59.50	72.00	78.00	76.00	76.00	81.00
June	59.50	72.00	78.00	76.00	76.00	81.00
July	62.75	72.00	78.00	76.00	76.00	81.00
Aug.	62.75	72.00	78.00	76.00	76.00	81.00
Sept.	62.75	72.00	78.00	76.00	76.00	81.00
Oct.	66.25	76.00	78.00	76.00	81.00	81.00
Nov.	66.25	76.00	78.00	76.00	81.00	81.00
Dec.	66.25	76.00	78.00	76.00	81.00	81.00
Average	61.40	71.56	77.33	76.00	77.25	81.00†

†Nominal

Electrolytic Copper

Cents Per Pound

	1973	1974	1975	1976	1977	1978
Jan.	53.12	68.70	70.50	63.00	65.20	62.75
Feb.	56.12	68.70	63.00	63.00	67.50	62.25
Mar.	60.12	68.70	63.00	64.50	70.63	61.62
Apr.	60.12	68.70	63.00	68.00	74.00	64.00
May	60.12	81.20	63.00	70.00	72.80	64.33
June	60.12	86.10	62.25	70.00	69.88	65.23
July	60.12	86.30	61.50	74.00	68.75	63.50
Aug.	60.12	86.70	63.00	74.00	64.00	66.47
Sept.	60.12	83.00	63.00	74.00	60.00	66.83
Oct.	60.12	78.25	63.00	72.00	60.00	69.54
Nov.	60.12	75.80	63.00	65.00	60.00	71.20
Dec.	68.00	73.00	63.00	65.00	61.29	71.50
Average	59.86	77.00	63.44	68.95	66.17	65.77

	1979	1980	1981	1982	1983	1984
Jan.	56.63	116.95	88.55	79.54	79.00	68.00
Feb.	89.36	134.17	86.01	79.41	82.75	70.00
Mar.	97.75	105.97	86.74	76.34	81.13	74.25
Apr.	90.50	94.57	88.15	76.87	82.40	76.50
May	89.50	92.91	85.99	78.86	82.81	71.50
June	86.39	92.32	85.11	71.67	80.88	69.25
July	85.95	102.88	83.99	71.64	81.75	66.50
Aug.	90.24	101.29	88.32	71.82	79.75	66.50
Sept.	92.36	98.78	84.90	71.87	76.75	65.50
Oct.	97.72	98.91	83.03	71.94	71.50	64.00
Nov.	98.49	96.02	81.93	72.25	68.64	66.00*
Dec.	106.10	88.13	80.97	73.12	69.25	68.00*
Average	92.12	101.90	85.31	74.61	78.05	68.83*

Iron Age Estimate

Straits Tin, Spot Price

Cents Per Pound†

	1979	1980	1981	1982	1983	1984
Jan.	624.18	758.95	643.35	696.66	578.82	565.09
Feb.	660.84	785.67	617.29	660.43	584.84	566.52
Mar.	684.35	812.18	607.75	589.40	598.42	576.75
Apr.	678.60	785.72	597.65	570.95	619.66	577.59
May	683.46	784.62	568.09	583.13	612.03	573.80
June	697.82	756.62	569.28	566.40	600.44	574.12
July	699.59	752.61	591.87	561.89	593.28	565.52
Aug.	678.57	751.51	652.76	564.08	583.50	567.17
Sept.	697.18	778.59	675.15	572.26	579.72	262.29
Oct.	714.24	744.38	698.17	556.11	580.58	550.60
Nov.	724.99	697.21	709.45	558.37	583.76	552.47*
Dec.	752.17	655.05	708.72	581.57	568.99	547.25*
Average	691.33	N.A.	636.63	586.75	590.34	564.93*

† U.S. cents per lb, EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo, beginning June, 1980. Prior prices are C.I.F., New York, based on Penang picul price.

N.A.—Not Applicable

*Estimate

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Zinc Prices

1971-81 Prime Western
1982 — High Grade
Cents Per Pound

	1973	1974	1975	1976	1977	1978
Jan.	19.50	31.18	39.00	37.68	37.00	30.50
Feb.	19.50	31.75	39.00	37.00	37.00	30.07
Mar.	19.63	32.76	38.75	37.00	37.00	29.00
Apr.	20.38	34.75	38.75	37.00	37.00	29.00
May	20.38	34.75	38.75	37.00	36.40	29.00
June	20.38	35.25	38.75	37.00	34.00	29.90
July	20.38	36.97	38.75	37.00	34.00	30.00
Aug.	20.38	38.00	38.75	37.00	34.00	31.88
Sept.	20.38	38.95	38.75	37.00	34.00	32.75
Oct.	20.38	39.00	38.75	37.00	32.80	33.75
Nov.	20.38	39.00	38.75	37.00	31.17	34.75
Dec.	30.00	39.00	38.75	37.00	30.50	34.75
Average	20.97	35.94	38.79	37.06	34.57	31.28

	1979	1980	1981	1982	1983	1984
Jan.	35.00	37.50	41.25	42.60	39.50	50.75
Feb.	36.89	38.67	41.63	43.00	40.00	51.00
Mar.	38.05	38.92	43.63	43.00	38.90	52.50
Apr.	38.50	38.50	43.75	35.75	38.25	53.00
May	38.50	37.50	46.50	36.00	40.00	52.50
June	38.57	36.50	46.63	35.80	40.00	52.25
July	39.64	35.50	46.63	38.50	40.90	50.00
Aug.	36.81	33.97	49.75	39.50	43.50	48.75
Sept.	36.07	36.80	49.75	41.00	46.00	46.75
Oct.	37.50	37.50	46.50	41.00	46.80	45.00
Nov.	37.08	38.80	46.75	40.20	49.00	45.00*
Dec.	37.50	40.50	43.75	38.25	49.00	46.00*
Average	37.51	37.70	45.54	39.55	42.65	49.46*

*Iron Age Estimate

Lead, Common Grade Price

Cents Per Pound

	1979	1980	1981	1982	1983	1984	
Jan.	33.00	40.58	51.29	34.13	29.95	22.40	26.50
Feb.	33.00	43.75	50.00	30.68	28.00	21.95	26.00
Mar.	33.00	46.00	49.55	35.28	26.00	21.75	26.50
Apr.	33.00	48.00	45.45	37.63	26.50	22.00	27.00
May	31.23	49.76	36.00	37.00	26.50	21.55	26.50
June	31.00	57.62	34.25	36.25	25.80	21.20	29.00
July	31.00	58.60	35.77	41.25	27.90	21.15	32.25
Aug.	32.40	57.97	40.97	44.63	27.90	21.15	30.00
Sept.	34.30	58.60	42.40	42.50	26.75	22.00	25.75
Oct.	37.00	60.74	45.00	37.63	26.00	25.50	24.00
Nov.	38.00	58.27	44.00	34.46	23.75	26.00	26.00*
Dec.	38.00	57.02	39.00	31.86	22.00	26.00	27.00*
Average	33.74	53.08	42.81	37.11	26.42	26.42	21.21*

*Iron Age Estimate

Electrolytic Nickel

Cents Per Pound, New York, Duty Raid

Oct. 1, 1976 to July 25, 1977	241.00
Published price suspended through Feb. 1, 1979	
Feb. 2, 1979 to Mar. 13, 1979	210.00
Mar. 14, 1979 to April 10, 1979	230.00
April 11, 1979 to May 13, 1979	255.00
May 14, 1979 to June 6, 1979	290.00
June 7, 1979 to Feb. 27, 1980	305.00
Dec. 5, 1979 to Feb. 27, 1980	325.00
Feb. 28, 1980 to Nov. 24, 1981	350.00
Nov. 25, 1981 to	329.00

Source: Inco, Inc.

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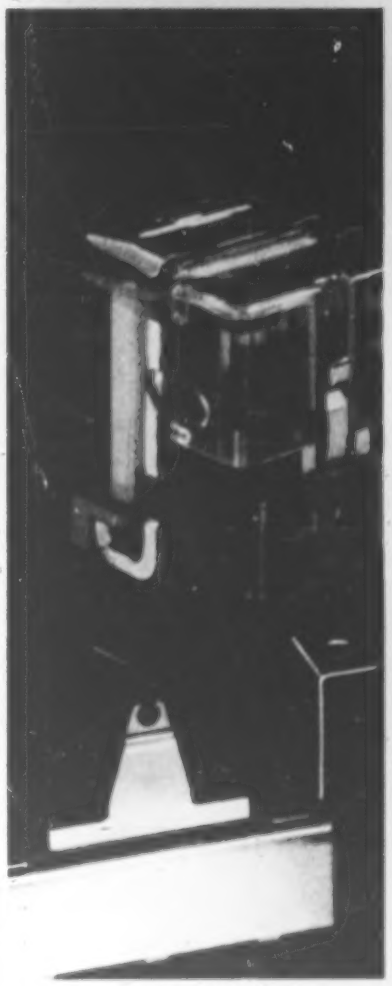

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PRICE & PRODUCTION DATA

(Effective December 10,1984)

Steel production by districts, thousands of tons

(000 omitted)	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	147	158	127	189
Pittsburgh	184	175	195	214
Youngstown	88	83	90	104
Lake Erie	114	115	109	134
Detroit	136	124	143	134
Chicago	413	399	411	511
Cincinnati	88	91	84	91
St. Louis	71	77	68	66
Southern	164	168	176	163
Western	65	66	66	76
U.S. Production	1,470	1,456	1,469	1,691

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports. Rail transportation, handling and unloading may be charged to the account of the buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural ..... gross-ton 80.50-86.9*
Mesabi, regular-unscreened ..... gross-ton $32.53
Mesabi, non-bessemer ..... gross-ton $30.03-31.53**

*80.50¢—Pickands Mather as of 1/27/81.
86.9¢—U.S. Steel as of 3/15/82. Cleveland-Cliffs as of 2/26/82. Oglebay Norton as of 3/25/82, and Hanna Mining as of 2/26/82.
**Effective 8/1/83.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective December 10,1984)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1984	To Date 1983
Net tons, in thousands	1,470	1,456	86,803	77,523
Capability Utilization Rate	56.7	56.2	68.5	54.8

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 7/1/84)	27.582	27.582	27.582	26.822
Pig Iron** (Net ton = 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton = 2240 lbs.)	$ 78.50	$ 78.50	$ 79.17	$ 86.17
No. 2 bundles	$ 50.50	$ 50.50	$ 51.17	$ 56.83

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh	$ 79.50	$ 79.50	$ 81.50	$ 90.50
No. 1 steel, Philadelphia	75.50	75.50	75.50	83.50
No. 1 steel, Chicago	80.50	80.50	80.50	84.50
No. 1 bundles, Detroit	61.50	61.50	64.50	86.50
Low Phos., Youngstown	72.50	72.50	72.50	88.50
No. 1 mach'y cast., Pgh	66.50	66.50	66.50	79.50
No. 1 mach'y cast., Phila	98.50	98.50	98.50	97.50
No. 1 mach'y cast., Chi	110.50	110.50	110.50	111.50

*Finished Steel Composite. Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
**Pig Iron Composite. Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite. Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective December 10,1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	50.91	51.09	12/10/84
Copper (C)	62.50-63.00	62.50-64.00	12/ 7/84
Lead	23.00-25.00	23.00-28.00	12/ 6/84
Magnesium Ingot	148.00	143.00	5/25/84
Nickel (LME)	218.77	214.19	12/10/84
Titanium Sponge	555.00-585.00	555.00	4/29/82
Zinc	45.00	45.00-48.00	9/21/84

ALUMINUM: Avg. for last week & previous week. COPPER (C) = cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, delivered. NICKEL: Avg. for last week & previous week. Canada. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$230.00
Beryllium-copper, per lb. cont. Be	$140.00
Beryllium 97% powder 200	$178.00
Cadmium, ton lots	$1.25-1.55
Calcium, ton lots, crown	$3.58
Chromium, 99.8%	$3.75
Cobalt, 99%, cathode	$12.50
Gold per troy oz.	$326.25
Indium, dollars per troy oz.	$3.10-3.30
Iridium, dollars per troy oz.	$450.00
Magnesium sticks, 10,000 lbs.	$1.97
Mercury, per 76-lb. f.o.b. N.Y.	$315.00-328.00
Molybdenum, lb tech. moly oxides, 20 lb. MO can	$6.85
Nickel electro (PDCR)	$3.29
Palladium, per troy oz.	$142.25
Platinum, per troy oz.	$320.00
Rhodium, per troy oz.	$815.00
Silver ingots, per troy oz.	$6.87
Vanadium	$6.00
Zirconium sponge	$12.00-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Penang in Malaysian dollars per kilo.)

Dec. 3—548.20 Dec. 6—548.60
Dec. 4—548.86 Dec. 7—547.54
Dec. 5—Holiday

Scrap Prices
Brass Mill Scrap

(Cents per lb, over 20,000 lbs. add 1¢ per lb)

	Solids	Turning
Copper	58½	49¼
Yellow brass	53½	50
Red brass	55⅛	48¾
Comm. bronze	56	49¼
Mang. bronze	56¼	46¼
Free cutting rod ends	51	50

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	54
No. 2 copper wire	46
Light copper	37

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	50
No. 2 copper wire	42
Light copper	33
No. 1 composition	46
No. 1 comp. turnings	43
Hvy. yellow brass solids	35
Hvy. yellow brass turnings	31
Radiators	37

Aluminum

New mixed clips	35	— 36
Old sheet	33	— 34
Old cast	33	— 34
Clean dry borings	33	— 34

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	27	— 29
Mixed I.C. clips	24	— 26
Old sheets and cast	22	— 23
Borings and turnings	18	— 20
Duraluminum clippings	24	— 25

Copper and Brass

No. 1 copper wire	42	— 43
No. 2 copper wire	34	— 35
Light copper	29	— 30
Radiators	31	— 32
No. 1 composition	40	— 41
No. 1 composition turnings	37	— 38
Cocks and faucets	27	— 28
Clean heavy yellow brass	28	— 29
Brass Pipe	29	— 30
New soft brass clippings	41	— 42

Lead

Heavy soft lead	9	— 10
Whole batteries	3	— 4
Type metal	16	— 17
Electrotype	13	— 14

Nickel

Nickel solids	115	—120
Nickel rod ends	115	—120
Nickel sheets, clips	115	—120
Nickel turnings	40	— 45

Zinc

New zinc clippings	18	— 19
Old diecast zinc	14	— 15

EFFECTIVE DECEMBER 10, 1984

(Effective December 10,1984) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of *Iron Age* editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 79.00 to	$ 80.00
No. 2 hvy. melting	71.00 to	72.00
No. 1 dealer bundles	89.00 to	90.00
No. 1 factory bundles (auto)	89.00 to	90.00
No. 2 bundles	50.00 to	51.00
No. 1 busheling	90.00 to	91.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	51.00 to	52.00
Cast iron borings	49.00 to	50.00
Low phos. punchings plate	99.00 to	100.00
Heavy turnings	71.00 to	72.00
No. 1 RR hvy. melting	87.00 to	88.00
Rails, 2 ft. and under	103.00 to	104.00
Scrap rails, random lgth	93.00 to	94.00
RR specialties	97.00 to	98.00
No. 1 machinery cast	66.00 to	67.00
Cupola cast	59.00 to	60.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	570.00 to	580.00
18-8 turnings	470.00 to	480.00

Chicago

No. 1 hvy. melting	$ 80.00 to	$ 81.00
No. 2 hvy. melting	75.00 to	76.00
No. 1 dealer bundles	89.00 to	90.00
No. 1 factory bundles (auto)	88.00 to	89.00
No. 2 dealer bundles	54.00 to	55.00
No. 1 busheling	87.00 to	88.00
Shredder scrap	89.00 to	90.00
Machine shop turnings	43.00 to	44.00
Mixed borings and turnings	44.00 to	45.00
Shoveling turnings	48.00 to	49.00
Cast iron borings	48.00 to	49.00
Low phos. forge crop	114.00 to	115.00
Low phos. punchings plate 1/4 in. and heavier	124.00 to	125.00
Low phos. 2 ft. and under	119.00 to	120.00
No. 1 RR hvy. melting	86.00 to	87.00
Scrap rails random lgth	88.00 to	89.00
Reroller rails	99.00 to	100.00
Rails, 2 ft. and under	113.00 to	114.00
RR couplers and knuckles	90.00 to	91.00
RR car axles	123.00 to	124.00
No. 1 machinery cast	110.00 to	111.00
Cupola cast	99.00 to	100.00
Stove plate	94.00 to	95.00
Steel car wheels	100.00 to	101.00
Stainless		
18-8 bundles and solids	490.00 to	500.00
18-8 turnings	420.00 to	430.00
430 bundles and solids	120.00 to	125.00
430 turnings	80.00 to	90.00

Philadelphia

No. 1 hvy. melting	$ 76.00 to	$ 77.00
No. 2 hvy. melting	66.00 to	69.00
No. 1 dealer bundles	87.00 to	90.00
No. 2 dealer bundles	45.00 to	48.00
No. 1 busheling	87.00 to	90.00
Shredder scrap	96.00 to	99.00
Machine shop turnings	29.00 to	32.00
Mixed borings and turnings	29.00 to	32.00
Shoveling turnings	38.00 to	41.00
Low phos. 5 ft. and under	84.00 to	87.00
Low phos. 2 ft. punchings	110.00 to	113.00
Electric furnace bundles	95.00 to	98.00
RR specialties	87.00 to	90.00
Rails, 2 ft. and under	112.00 to	115.00
Cupola cast	76.00 to	79.00
Heavy breakable cast	57.00 to	60.00
No. 1 machinery cast	97.00 to	100.00

Detroit

Brokers buying prices per gross ton on cars.

No. 1 hvy. melting	$ 50.00 to	$ 51.00
No. 2 hvy. melting	49.00 to	50.00
No. 1 dealer bundles	61.00 to	62.00
No. 2 bundles	31.00 to	32.00
No. 1 busheling	60.00 to	61.00
Drop forge flashings	38.00 to	39.00
Machine shop turnings	44.00 to	45.00
Mixed borings and turnings	21.00 to	22.00
Shoveling turnings	45.00 to	46.00
Cast iron borings	31.00 to	32.00
Heavy breakable cast	40.00 to	41.00
Mixed cupola cast	56.00 to	57.00
Automobile cast	80.00 to	81.00
Stainless		
18-8 bundles and solids	445.00 to	455.00
18-8 turnings	350.00 to	360.00
430 bundles and solids	105.00 to	115.00

Youngstown

No. 1 hvy. melting	$ 59.00 to	$ 62.00
No. 2 hvy. melting	42.00 to	45.00
No. 1 dealer bundles	71.00 to	72.00
No. 2 dealer bundles	35.00 to	38.00
Machine shop turnings	11.00 to	14.00
Shoveling turnings	16.00 to	19.00
Low phos. plate	71.00 to	74.00
Electric furnace bundles	69.00 to	72.00
Galvanized bundles	59.00 to	62.00

Cleveland

No. 1 hvy. melting	$ 50.00 to	$ 53.00
No. 2 hvy. melting	34.00 to	37.00
No. 1 dealer bundles	62.00 to	65.00
No. 1 factory bundles	71.00 to	74.00
No. 2 bundles	19.00 to	22.00
No. 1 busheling	64.00 to	67.00
Machine shop turnings	6.00 to	9.00
Mixed borings and turnings	6.00 to	9.00
Shoveling turnings	7.00 to	10.00
Cast iron borings	10.00 to	13.00
Cut structural & plates, 2 ft. and under	100.00 to	103.00
Low phos. punchings plate	100.00 to	103.00
Drop forge flashings	35.00 to	38.00
Foundry steel, 2 ft. & under	57.00 to	60.00
No. 1 RR hvy. melting	73.00 to	76.00
Rails, 2 ft. and under	105.00 to	108.00
Rails, 18 in. and under	106.00 to	109.00
Steel axle turnings	57.00 to	59.00
Railroad cast	89.00 to	91.00
No. 1 machinery cast	99.00 to	101.00
Cupola cast	57.00 to	58.00
Stove plate	41.00 to	44.00
Stainless		
18-8 bundles	375.00 to	385.00
18-8 turnings	325.00 to	335.00
430 bundles	80.00 to	85.00

Buffalo

Brokers buying prices per gross ton on cars.

No. 1 hvy. melting	$ 62.00 to	$ 63.00
No. 2 hvy. melting	51.00 to	52.00
No. 1 busheling	72.00 to	73.00
No. 1 dealer bundles	71.00 to	72.00
No. 2 bundles	36.00 to	37.00
Machine shop turnings	11.00 to	12.00
Mixed boring and turnings	12.00 to	13.00
Shoveling turnings	15.00 to	16.00
Cast iron borings	20.00 to	21.00
Low phos. plate	92.00 to	93.00
Structural and plate, 2 ft. and under	95.00 to	96.00
Rails, 2 ft. and under	95.00 to	96.00
Scrap rails, random lgth	72.00 to	73.00
No. 1 machinery cast	78.00 to	79.00
No. 1 cupola cast	58.00 to	59.00

St. Louis

No. 1 hvy. melting	$ 58.00 to	$ 59.00
No. 2 hvy. melting	47.00 to	48.00
Foundry steel, 2 ft.	58.00 to	59.00
No. 1 dealer bundles	58.00 to	59.00
No. 2 bundles	42.00 to	43.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	23.00 to	24.00
Cast iron borings	27.00 to	28.00
No. 1 RR hvy. melting	58.00 to	59.00
Rails, random length	65.00 to	66.00
Rails, 18 in. and under	83.00 to	84.00
RR specialties	80.00 to	81.00
Cupola cast	72.00 to	73.00
Heavy breakable cast	50.00 to	51.00
Stove plate	83.00 to	84.00
Steel car wheels	94.00 to	95.00
Rerolling rails	78.00 to	79.00
Unstripped motor blocks	61.00 to	62.00

Birmingham

No. 1 hvy. melting	$ 68.00 to	$ 69.00
No. 2 hvy. melting	63.00 to	64.00
No. 1 dealer bundles	69.00 to	70.00
No. 2 bundles	45.00 to	46.00
No. 1 busheling	69.00 to	70.00
Shredder scrap	94.00 to	95.00
Machine shop turnings	23.00 to	24.00
Shoveling turnings	38.00 to	39.00
Cast iron borings	38.00 to	39.00
Electric furnace bundles	67.00 to	68.00
Elec. furnace, 3 ft. & under	68.00 to	69.00
Structural and plate, 2 ft.	97.00 to	98.00
Structural and plate, 4 ft.	89.00 to	90.00
No. 1 RR hvy. melting	89.00 to	90.00
5, 30 rails, random lgth	65.00 to	66.00
Rails, 2 ft. and under	103.00 to	104.00
Angles and splice bars	89.00 to	90.00
No. 1 cupola cast	86.00 to	87.00
Unstripped motor blocks	67.00 to	68.00

Cincinnati

Brokers buying prices per gross ton on cars.

No. 1 hvy. melting	$ 49.00 to	$ 50.00
No. 2 hvy. melting	48.00 to	50.00
No. 1 dealer bundles	60.00 to	61.00
No. 2 bundles	24.00 to	25.00
Machine shop turnings	4.00 to	5.00
Shoveling turnings	6.00 to	7.00
Cast iron borings	17.00 to	18.00
Low phos. 18 in. and under	82.00 to	83.00
Rails, random length	64.00 to	65.00
Rails, 2 ft. and under	77.00 to	78.00
No. 1 cupola cast	54.00 to	55.00
Heavy breakable cast	25.00 to	26.00
Drop broken cast	74.00 to	75.00

New York

Brokers buying prices per gross ton on cars.

No. 1 hvy. melting	$ 48.00 to	$ 50.00
No. 2 hvy. melting	39.00 to	41.00
No. 2 dealer bundles	23.00 to	27.00
Mixed borings and turnings	11.00 to	13.00
Machine shop turnings	6.00 to	7.00
Shoveling turnings	14.00 to	15.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	89.00 to	90.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	490.00 to	510.00
18-8 turnings	390.00 to	410.00
430 prepared solids	90.00 to	110.00
410 solids	80.00 to	90.00

Boston

Brokers buying prices per gross ton on cars.

No. 1 hvy. melting	$ 58.00 to	$ 60.00
No. 2 hvy. melting	48.00 to	50.00
No. 1 dealer bundles	58.00 to	60.00
No. 2 bundles	35.00 to	37.00
No. 1 busheling	65.00 to	67.00
Shredder scrap	65.00 to	67.00
Machine shop turnings	10.00 to	12.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	81.00 to	86.00
Mixed cupola cast	48.00 to	50.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 44.00 to	$ 46.00
No. 2 hvy. melting	38.00 to	40.00
No. 1 dealer bundles	35.00 to	37.00
No. 2 dealer bundles	18.00 to	20.00
Machine shop turnings	6.00 to	8.00
Cast iron borings	6.00 to	8.00
No. 1 cupola cast	81.00 to	83.00

Los Angeles

No. 1 hvy. melting	$ 45.00 to	$ 47.00
No. 2 hvy. melting	38.00 to	40.00
No. 1 dealer bundles	36.00 to	38.00
No. 2 dealer bundles	18.00 to	20.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	8.00 to	10.00
Cast iron borings	6.00 to	8.00
Elec. furnace, 1 ft. and under (foundry)	74.00 to	76.00
No. 1 cupola cast	75.00 to	77.00

Seattle

No. 1 hvy. melting	68.00 to	70.00
No. 2 hvy. melting	57.00 to	59.00
No. 2 bundles	40.00 to	42.00
No. 1 cupola cast	92.00 to	93.00
Mixed yard cast	82.00 to	84.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars.

No. 1 hvy. melting	$ 87.00
No. 2 hvy. melting, cut 2 ft. and under	81.00
No. 1 dealer bundles	88.00
No. 2 bundles	60.00
Mixed steel scrap	57.00
Bush. new fact. prep'd	89.00
Bush. new fact. unprp'd	79.00
Machine shop turnings	31.00
Short steel turnings	33.00
Mixed borings and turnings	25.00
Cast scrap	79.00

Houston

Brokers buying prices per gross ton on cars.

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	56.00 to	57.00
No. 2 bundles	42.00 to	43.00
Machine shop turnings	12.00 to	13.00
Crushed turnings	29.00 to	31.00
Shredder scrap	73.00 to	74.00
Cut structural plate, 2 ft. and under	99.00 to	101.00
Cut structural plate, 5 ft. and under	83.00 to	85.00
Unstripped motor blocks	60.00 to	61.00
Cupola cast	77.00 to	78.00

PRODUCER KEY
With Principal Offices

A7 Armco Inc., Middletown, Ohio
A8 Atlantic Steel Co., Atlanta, Ga.
A11 Atlantic Wire Co., Branford, Conn.

B1 Baron Drawn Steel Corp., Toledo, Ohio
B3 Bethlehem Steel Corp., Bethlehem, Pa.
B4 Blair Strip Steel Co., New Castle, Pa.
B5 Bliss & Laughlin Steel Co., Harvey, Ill.

C6 CF&I Steel Corp., Pueblo, Colo.
C10 Copperweld Steel Co., Warren, Ohio
C16 Connors Steel Co., Birmingham, Ala.
C20 Calumet Steel Div., Chicago Heights, Ill.

D1 Detroit Strip Div., Cyclops Corp.

E4 Eliot Bros. Steel Co., New Castle, Pa.

F1 Firth Sterling, Inc., McKeesport, Pa.

G2 Granite City Steel Co., Granite City, Ill.
G3 Great Lakes Steel Division, National Steel Corp., Ecorse, Mich.
G4 Greer Steel Co., Dover, Ohio
G5 Green River Steel Corp., Owensboro, Ky.
G6 Gibraltar Steel Corp., Buffalo, N. Y.
G7 Georgetown Steel Corp., Georgetown, S. C.

H1 Hercules Drawn Steel Corp., Livonia, Mich.

I2 Ingersoll Steel Div., Newcastle, Ind.
I3 Inland Steel Co., Chicago, Ill.
I4 Interlake Steel Corp., Chicago

J2 Jessop Steel Corp., Washington, Pa.
J3 Jones & Laughlin Steel Corp., Pittsburgh
J4 Joslyn Mfg. & Supply Co., Chicago
J5 Judson Steel Corp., Emeryville, Calif.

K2 Keystone Consolidated Industries, Inc.
K3 Kentucky Electric Steel Co., Ashland, Kentucky
K5 Kemco Div., Foote Mineral Co., Keokuk, Iowa

L2 La Salle Steel Co. Chicago
L3 Lone Star Steel Co., Dallas
L4 Lukens Steel Co., Coatesville, Pa.
L5 Litho-Strip Corp., Chicago

M2 McLouth Steel Products Corp.
M8 Mill Strip Products Div., National Steel Service Center, National Steel Corp.
M9 Moltrup Steel Products Co., Beaver Falls, Pa
M11 Midwest Steel Div., National Steel Corp., Portage, Ind.

N1 Northeast Precision Steel Co., Boston, Mass.
N4 Northwestern Steel & Wire Co., Sterling, Ill.
N6 Northwest Steel Rolling Mills, Seattle, Wash.
N9 Nelsen Steel & Wire Co., Chicago, Ill.
N10 North Star Steel Co., Saint Paul, Minn.

O2 Oregon Steel Mills, Portland, Ore.

P2 Phoenix Steel Corp., Claymont, Del.
P15 Philadelphia Steel and Wire Corp., Phila.

R3 Republic Steel Corp., Cleveland
R4 Ramco Steel Co., Buffalo, N. Y.
R5 Roblin Steel Corp., North Tonawanda, N. Y.
R7 Rome Strip Steel Co., Rome, N. Y.

S1 Sharon Steel Corp., Sharon, Pa
S7 Stanley Works, New Britain, Conn.
S8 Superior Drawn Steel Co., Monaca, Pa.
S10 Seneca Steel Service, Buffalo, N. Y.
S16 Southern Precision Steel Co., Gulfport, Miss.

T4 Thomas Steel Strip Co., Warren, Ohio
T5 Timken Co., Steel Division, Canton, Ohio
T7 Texas Steel Co., Fort Worth, Tex.
T9 Triumph Electro Corp., Chicago, Ill.
T10 Tennessee Forging Steel Corp., Harriman, Tenn.
T11 Teledyne Columbia-Summerill, Carnegie, Pa.

U1 United States Steel Corp., Pittsburgh, Pa.

W3 Weirton Steel Corp., Weirton, West Va.
W5 Wheeling-Pittsbugh Steel Corp.
W7 Wilson Steel & Wire Co., Chicago
W10 Wyckoff Steel Div., Ampco-Pittsbugh Corp., Pittsbugh, Pa.
W14 Whittaker Steel Strip Div., Detroit Mich.

STEEL SERVICE CENTER PRICES

Price, Dollars per 100 lb

Prices are based on list prices reported to *Iron Age* by a number of metal service centers deemed representative by *Iron Age* and then weighted based in part on the reports received each month. Prices are not intended to reflect the actual transaction prices obtained by any individual metal service center.

Cities*	Sheets			Strip	Plates	Shapes	Bars		Alloy Bars			
City Delivery Charge*	Hot-Rolled (10 gage)	Cold-Rolled (20 gage)	Galvanized (16 gage)	Hot-Rolled Strip	Plates	Standard Structurals	Hot-Rolled (merchant)	Cold Finished	Hot-Rolled 8620 As Rolled	Hot-Rolled 4140 Annealed	Cold-Drawn 8620 As Rolled	Cold-Drawn 4140 Annealed
Atlanta	29.65	33.55	34.48	31.63	27.02	23.28	19.55	31.25	34.34	50.60	69.58	73.19
Baltimore	26.90	30.72	37.59	39.82	34.75	28.80	22.60	3o.40	51.69	56.95	63.60	69.98
Birmingham	26.60	32.82	34.59	31.64	26.64	23.01	19.99	30.91	49.31	58.90	68.10	74.43
Boston	34.94	40.19	45.64	47.54	33.25	30.06	23.59	40.29	47.92	51.02	58.48	63.50
Buffalo	31.10	35.68	41.89	40.15	30.60	26.15	19.86	36.70	44.15	47.85	53.92	59.84
Chicago	28.46	34.62	37.60	32.74	22.40	22.00	17.70	30.30	38.02	41.09	46.52	52.75
Cincinnati	29.60	34.58	37.16	30.85	23.14	20.75	17.96	32.96	37.16	42.54	46.63	52.44
Cleveland	28.48	34.22	37.48	36.74	23.60	25.56	18.60	36.35	38.19	44.50	47.48	53.93
Denver	31.44	38.19	36.22	36.36	27.40	25.80	20.10	43.00	50.55	57.95	65.95	70.19
Detroit	29.21	35.20	37.87	31.39	23.13	23.86	16.96	32.71	37.18	42.51	46.81	53.49
Houston	27.67	28.71	31.69	39.21	26.73	27.73	22.60	40.15	45.96	52.87	58.95	66.14
Kansas City	30.72	36.05	38.70	34.01	27.10	22.95	17.90	33.12	39.60	45.40	49.73	54.87
Los Angeles	27.01	31.33	37.84	35.32	29.83	33.12	26.52	39.40	50.88	57.10	63.15	70.64
Memphis	26.37	32.51	35.34	33.57	27.75	26.63	21.40	33.87	36.78	49.96	59.80	69.44
Milwaukee	29.35	34.89	37.85	33.06	22.82	24.18	17.58	30.89	36.58	41.65	45.66	52.60
New York	32.47	38.99	42.55	43.38	32.66	25.31	21.06	40.05	40.90	46.40	51.84	55.34
Philadelphia	28.10	38.99	41.23	43.50	31.05	28.11	18.99	36.44	45.80	50.25	60.22	65.42
Pittsburgh	35.27	40.97	45.23	43.45	37.60	30.44	21.29	28.74	38.43	44.64	49.90	54.10
Portland	28.96	32.08	38.73	36.93	32.88	34.78	27.87	44.85	49.78	57.74	70.44	.....
San Francisco	26.94	31.55	38.60	35.58	28.61	31.19	25.78	39.72	50.70	57.69	63.90	70.05
Seattle	23.61	30.12	36.65	32.95	22.02	27.32	25.81	39.14	53.03	61.70	69.75	74.63
Spokane	21.21	30.42	35.65	38.02	35.00	33.77	21.97	43.01	43.20	47.52	.....	58.32
St. Louis	29.11	34.60	37.31	34.59	23.89	22.90	18.15	33.87	38.12	43.51	47.85	53.69
St. Paul	28.87	33.61	36.69	38.36	23.81	23.73	17.70	33.96	37.52	42.72	47.09	53.31

Base Quantities. All HR products may be combined for quantity. Hot-rolled sheet, 10 ga x 36 x 96—120. Cold-rolled sheet, 20 ga x 36 x 120. Galv. sheet—16 ga x 36—120. Hot-rolled strip—1/8" x 1". Plate 1/4" x 84". Shapes—I-Beams 6 x 12.5. Hot-rolled bar—Rounds 3-4-2-15/16. Cold finished bar—C 1018—1" rounds. Alloy bar—Hot-rolled 8620—1-5/8" round. Cold drawn—1" round. Hot-rolled 4140—1-5/8" round. Cold drawn—1" round. Check local supplier for additions or deductions from base.

*Prices at all points include metropolitan delivery charges.

Codes identify Producers listed in the key on p. 108. (Prices quoted are mill base prices in cents per pound unless otherwise noted and do not reflect extras or surcharges.)
N.A. = Not available.

Billets, Blooms, Slabs

(Dollars per net ton)

Carbon Reralling, Midwest	
W5	$366.00
N4	$366.00
West	
C6	$346.00
Carbon Forging, East	
B3(2), C10, U1	$473.00
R3	$453.00
Midwest	
R3, W5	$453.00
S1, U1, I3	$473.00
C10	$473.00
K2	$473.00
West	
B3(2)	$463.00
C6	$453.00
Alloy, East	
R3	$492.00
B3, U1, C10	$512.00
Midwest	
W5	$492.00
U1, C10, I3	$512.00
R3	$492.00
S1	$512.00
West	
B3	$502.00
C6	$469.00

Piling Sheet Steel

(cents per lb)

Midwest	
U1	$ 26.45

Structurals

Carbon, East	
B3	$ 22.90
U1, J3	$ 23.90
Midwest	
C20	$ 22.90
W8	$ 22.90
I3, T10, U1, N4	$ 23.90
West	
C6	$ 25.10
B3(2)	$ 21.65
South	
C16, U1	$ 23.90
T10	$ 22.90
A8	$ Cmp.
High-Strength, Low Alloy, East	
B3	$ 22.90
U1, J3	$ 23.90
Midwest	
N4	$ 23.90
W8	$ 24.15
U1	$ 23.90
I3	$ 23.90
West	
B3	$ 21.65
South	
U1, C16	$ 23.90
Wide Flange, Carbon, East	
B3	$ 22.90
U1, J3	$ 23.90
Midwest	
U1	$ 23.90
N4	$ 23.90
I3	$ 23.90
West	
C6	$ 24.15

Strip

Hot-Rolled, Carbon, Cat II Edge—all widths, East	
U1, B3	$ 23.75
J3	$ 22.05
Midwest	
D1	$ 22.05
I4	$ 22.85
J3, W3	$ 22.05
G2, G3	$ 23.45
N4	$ 22.55
W5, S1, A7	$ 23.75
U1, B3, I3	$ 23.75
M2, R3	$ 22.05
West	
B3	$ 26.55
South	
R3	$ 22.05
Cold-Rolled, Carbon Max. 25%, East	
E4	$ 29.75
S10	$ 29.60
P15	$ 24.80
B4	$ 36.60
G6	$ 36.175
Midwest	
I4	$ 38.30
W14	$ 32.80
J4	$ 34.05
S1	$ 37.05
High-Strength, Hot-Rolled, Low Alloy, Cut Edge & Mill Edge—all widths, (plus extras)*	
Midwest	
M2, R3, W3, J3, I3	$ 22.05
G2, G3	$ 23.45
S1	$ 23.75
A7	$ 25.35
South	
R3	$ 22.05
High-Strength, Cold-Rolled, Low Alloy, Mill Edge	
Midwest	
S1	$ 37.05
Alloy, Hot-Rolled, Midwest (plus extras)*	
S1	$ 26.10
I4	$ 25.20
Alloy, Cold-Rolled, East (plus extras)*	
E4, M8	$ 43.35
B4	$ 47.25
P15	$ 32.10
Midwest	
I4	$ 44.30
S1	$ 44.80

Sheets

Hot-Rolled, Carbon (18 Ga & Hvyr), East	
B3	$ 23.75
J3	$ 22.05
U1	$ 23.75
Midwest	
M2, R3, W3	$ 22.05
D1, J3	$ 22.05
G2, G3	$ 23.45
I4	$ 22.45
U1, W5, S1, B3, I3, A7	$ 23.75
West	
U1	$ 24.25
South	
R3	$ 22.05
Cold-Rolled, East, Class I	
B3(2)	$ 28.15
J3	$ 26.15
U1	$ 28.15
Midwest	
R3, M2, W3	$ 26.15
G2, G3, M11	$ 27.85
I4	$ 22.00
J3	$ 26.15
D1	$ 26.15
U1, W5, S1, B3, I3, A7	$ 28.15
West	
U1	$ 28.65
South	
R3	$ 24.65
Galvanized (hot-dipped), East	
B3(2)	$ 30.30
U1	$ 30.30
Midwest	
J3, D1, W3	$ 28.00
R3, Y1	$ 28.00
G2, M11	$ 30.00
U1, W5, S1, I3, A7	$ 30.30
West	
U1	$ 30.80
South	
R3	$ 28.00
Enameling, Midwest	
U1, S1, I3, A7	$ 29.65
J3	$ 27.65
Long-Terne, Midwest	
W5, A7	$ 31.65
U1	$ 31.65
R3	$ 29.35

Wire Rod

East	
B3(2)	$ 22.35
Midwest	
N4, K2	$ 22.35
U1	$ 24.10
A7	$ 22.00
West	
C6	$ 21.45
South	
G7	$ 22.35

Tinplate

Electrolytic Tinplate

	per base box
Single Reduced (70 lb)	
East	
J3	$ 26.29
U1	$ 27.74
B3	$ 27.54
Midwest	
U1	$ 27.74
J3	$ 26.29
M11	$ 27.24
W3	$ 26.29
W5	$ 27.74
West	
U1	$ 28.24
South	
U1	$ 27.74
Double Reduced (55 lb)**	
Midwest	
M11	$ 21.87
J3	$ 21.49
U1	$ 22.37
W3	$ 21.49
W5	$ 22.37
West	
U1	$ 22.87
South	
U1	$ 22.37
Black Plate	
Single Reduced (75 lb)*	
East	
B3	$ 24.31
Midwest	
J3	$ 24.01
I3, W3	$ 24.57
W3	$ 24.01
U1, M11	$ 25.26
West	
U1	$ 25.26
Double Reduced (55 lb)	
East	
B3	$ 20.49
Midwest	
M11	$ 19.70
W5	$ 19.70
J3	$ 18.93
W3	$ 18.93
U1	$ 19.70
West	
U1	$ 19.70
South	
U1	$ 19.70

*70 lb—base weight extra 45¢
**50 lb—base weight extra $1.40

Bars

Carbon Steel, Hot-Rolled
(Special quality)

East	
R3, K3	$ 25.80
R5	$ 25.80
J3	$ 25.80
U1, C10, B3(3)	$ 27.06
Midwest	
I4	$ 23.95
U1, I3	$ 27.05
R3, T10, C20, N4	$ 25.80
K2	$ 25.80
I3	$ 22.00
A7	$ 20.25
West	
B3	$ 25.80
C6	$ 24.45
South	
A8	$ 20.65
C16	$ 25.80
Cold-Finished Carbon, East	
A11	$ 22.15
R3	$ 33.75
T11, S8	$ 31.00
J3(4), L2	$ 31.00
M8, W10	$ 31.00
N1	$ 24.475
R4	$ 33.25
B4	$ 33.25
C10	$ 31.00
Midwest	
W10, R3, M9	$ 33.25
J3	$ 31.00
B1	$ 33.45
L2	$ 30.75
N9	$ 31.00
W14	$ 22.20
B5	$ 34.75
West	
R3	$ 37.15
South	
J3	$ 34.00
C16	$ 24.40
J3	$ 31.95
Alloy, Hot-Rolled, East	
R5, K3	$ 27.95
R3, J3	$ 27.95
U1, B3(2), C10	$ 29.20
Midwest	
R3	$ 27.95
I3, C10, U1	$ 29.20
I4	$ 26.10
I3	$ 23.50
A7	$ 20.25
West	
B3	$ 27.95
C6	$ 26.60
South	
A8	$ 22.00
Alloy, Hot-Rolled, East	
L2	$ 35.20
R3, N1	$ 37.90
R4	$ 37.10
AF11	$ 30.50
J3, W10, L2	$ 34.85
T11, S8	$ 34.85
C10	$ 34.85
Midwest	
R3	$ 37.35
J3, W10, C10	$ 34.85
B1	$ 37.30
N9	$ 34.85
L2	$ 34.85
B5	$ 38.60
M9	$ 37.10
West	
R3	$ 40.75
South	
J3	$ 35.85
C16	$ 28.00

Plates

Carbon Steel, East	
B3	$ 23.25
I4, U1	$ 25.75
P2	$ 23.25
J3	$ 26.75
Midwest	
B3	$ 23.25
I3	$ 25.75
J3, A7	$ 22.80
U1, I4, S1	$ 25.75
R3	$ 26.75
West	
C6	$ 24.25
U1, B3	$ 25.75
O2	$ 23.00
South	
R3	$ 25.75
U1	$ 25.75
Alloy East	
B3	$ 31.05
U1, I4	$ 33.55
P2	$ 33.55
J3	$ 34.55
Midwest	
B3	$ 31.05
G2, G3	$ 33.55
I4, U1	$ 33.55
West	
B3	$ 33.55
O2	$ 31.00
South	
U1	$ 33.55

Wire

Carbon Steel Wire, East	
B3	$ 27.10
A11	$ 22.15
Midwest	
R3	$ 24.60
N4, W7	$ 27.40
K2	$ 24.20
South	
A8	$ 22.85

West

C6	$ 24.95